









Proceedings of the Asiatic  
Society.  
1866

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## APPENDIX.

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## APPENDIX A.

<i>Authors.</i>	<i>Papers Communicated.</i>	<i>Author's date.</i>	<i>When received.</i>	<i>Pt. &amp; No. of the Jnl. and Proc.</i>
R. Adams, Esq.	Notes on the "Madar" plant. ....			
Capt. H. H. G. Austen.	Notes on the Pangong Lake, district of Ladak. ....	.....	14th June, 1866.	
	Vocabulary of the English, Balti and Kashmeri. ....	14th July, 1866.	28th July, 1866.	
V. Ball, Esq.	Notes on the principal Jungle fruits used as articles of food by the natives of the districts of Maunbhoom and Hazareebag. ....	3rd Nov 1866.	3rd Nov. 1866.	
J. Beames, Esq.	The Arabic Elements in official Hindustani, No. 2. ....	.....	19th July, 1866.	
	Derivation of "Om and Amen." ....	.....	26th Augt. 1866.	Proc. Sept. p. 193.
	Outlines of Indian Philology. ....	.....	6th Oct. 1866.	
W. T. Blanford, Esq.	Contributions to Indian Malacology, No. VI. ....	.....	3rd Feb. 1866.	Pt. II. No. I. 1866.
	Ditto ditto, No. VII. ....	.....	5th Sept. 1866.	Pt. II. No. II. 1866.
	Ditto ditto, No. VIII. ....	.....	5th Dec. 1866.	
H. Blochmann, Esq.	Derivation of "Om and Amen," ....	.....	3rd Sept. 1866.	
Capt. H. H. Brown,	Notes on the Pegu Pagoda. ....	.....	4th Dec. 1866.	Proc. for December.
The Hon. G. Campbell,	Ethnology of India. ....	.....	4th June, 1866.	Pt. II. Sp. No. 1866, Ethnology.
C. J. Campbell, Esq.	Notes on the History and Topography of the ancient cities of Delhi.	27th July, 1866.	11th Augt. 1866.	

P. Carnegy, Esq.	... Notes and Queries on the past history of different clans and races of Orde.	.....	10th Augt. 1866.
Maj.-Gen. A. Cunningham,	Archæological Survey Report, 1864-65,	.....	13th Feb. 1866
The Rev. F. Batsch,	... Notes on the Oraon language,	.....	9th July, 1866.
Lieut.-Col. E. T. Dalton,	... The Kols of Chota-Nagpore,	.....	Pt II. Sp. No. 1866. Ethnology.
F. Fedden, Esq.	... Notes on the Fireflies of Burma.	.....	Pt. II. Sp. No. 1866. Ethnology.
Major B. Ford,	... Report on the Barren Island,	.....	Proc. for January.
Govt. of India, (Home),	... 10 Communications describing storms in various parts of the world and which were collected for the use of the late Mr. Philington.	.....	27th July, 1866.
The Govt. of Bengal,	... Several communications on the Earth-quake of 23rd May, 1866.	.....	1st Jan. 1866.
Babu Gopee Nauth Sen,	... Abstract of Hourly Meteorological Observations made at the Surveyor General's Office in September, 1865.	.....	6th July, 1866.
	... Ditto October and November, 1865.	.....	22nd Dec. 1866.
	... Ditto December, 1865,	.....	19th Jan. 1866.
	... Ditto January and February, 1866.	.....	21st Feb. 1866.
	... Ditto March, April and May, 1866.	.....	25th Mar. 1866.
	... Ditto June and July, 1866.	.....	25th May, 1865.
	... Ditto August, 1866.	.....	16th Augt. 1866.
	...	.....	15th Oct. 1866.
	...	.....	6th Dec. 1866.

} Pt. II. No. II. 1866.  
Pt. II. No. II. 1866.

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F. S. Growse, Esq.	... Some objections to the modern style of official Hindustani. ...	.....	9th July, 1866.	Pt. I. No. III. 1866.
E. B. Harris, Esq.	... A list of things discovered in excavations in Sultangunge, up to November, 1865. ...	.....	17th Feb. 1866.	
W. J. Herschell, Esq.	... Description of the Chandrarekha Gurh near Sheshtani, Pergunnah Naye Gong, Zilla Midnapore. ...	.....	2nd April, 1866.	Pt. I. No. III. 1866.
C. Horne, Esq.	... Notes on Anjimm village. ... Notes on Jusrow village and its ruins. ...	9th Feb. 1866.	15th Feb. 1866.	
	Notes on Jumma Masjid, Etwah. ...	24th Mar. 1866.	27th Mar. 1866.	
	Notes on Mynpuri village. ...	.....	27th April, 1866.	
	Village Notes (Namaina). ...			
	Notes on Atanjikhera or Piloshanna of Genl. Cunningham. ...	14th Dec. 1865.	5th Jan. 1866.	Pt. I. No. III. 1866.
W. H. Johnson, Esq.	Rough Notes on Ancient Hindu Temples at Malaon. ... Report of the survey operations of the Kashmir series beyond, and to the north of Changechemno valley. ...	15th Dec. 1865.	2nd Jan. 1866.	
W. Masters, Esq.	... A few notes on the Earthquakes of December 1865, in Bengal. ...	22nd April, 1866.	16th July, 1866.	
A. P. Minas, Esq.	... A short sketch of the tribes of Bhuttriana and Hurriana. ...	.....	17th Jan. 1866.	
		.....	23rd July, 1866.	

Capt. A. B. Melville,	Notes on the Buddhist Temple at Dob Khand, Gwalior.	25th Jan. 1866.	31st Jan. 1866.	Pt. I. No. III. 1866.
Major F. D. Newall, R. A.	Two notes on visits to Cashmere.	.....	27th July, 1866.	
Babu Rajendra Lala Mittra.	Notes on the Gupta inscriptions from Aphsar and Behar.	.....	4th Nov. 1866.	
Dr. A. Sprenger,	Remarks on Barbier de Maynard's edition of Ibn Khordhadhe and on the Land Tax of the Empire of the Khaliffs.	.....		
R. Taylor, Esq.	Notes on the Physical changes of the Koen Pagoda near Madras.	23rd Feb. 1866.	24th Feb. 1866.	Pt. I. No. II. 1866.
E. Thomas, Esq.	The Initial Coinage of Bengal.	5th Jan. 1866.	18th Jan. 1866.	P. oc. Feb. p. 51.
Lieut.-Col. R. C. Tytler.	Description of Drynoica Verreauxii.	.....	3rd Mar. 1866.	
Dr. A. M. Verchere,	Kashmir, the Western Himalaya and the Afghan Mountains.	.....	3rd June 1866.	
Lieut.-Col. J. T. Walker,	Abstract of the observations of the Astronomical points determined by the Bros. Schlagintweit.	.....	5th Jan. 1866.	Pt. II. No. II. 1866.
	Russian Geographical operations in Asia.	.....	11th Jan. 1866.	Pt. II. No. I. 1866.
D. Wallie, Esq.	Experimental investigations connected with the water supply to Calcutta.	.....	8th Mar. 1866.	Pt. II. No. II. 1866.
	Supplement to ditto.	.....	31st Augt. 1866.	
G. E. Ward, Esq.	Notes on the Antiquities of the Dhoon.	.....	28th Sept. 1866.	
		7th Feb.	23rd Mar. 1866.	Proc. April, p. 97.

## APPENDIX B.

## Donors.

## Donations transferred to the Indian Museum.

Dr. John Anderson. — **A** young specimen of *Gariadalis Gangeticus*; a specimen of *Crocodylus porosus*; **2** *Halecyon Sanguensis* (white-breasted king-fisher); one *Athene Brama* (spotted owl); *Pteropus Edwardsii* (flying fox); one *Caprimulgus Asiaticus* (Indian goat-sucker); one *Budytes viridis* (wagtail); **2** *Anthus rufulus* (slender lark); **3** *Gyps Bengalensis* (vulture); one *Dicrurus macrocerus* (king crow).

*Macacus radiatus*; *Oriolus melanocephalus*; *Pratincola caprata*; *Accipiter nisus*; *Euphocomus nycthemerus*; *Eos ornata*; *Lorius dominella*; *Starnus contra*; *Dicrurus caerulescens*; *Dicrurus macrocerus*; *Dicrurus longicaudatus*; *Budytes viridis*; *Malacocercus Bengalensis*; *Cuculus varius*; *Fringilla Canaria*; *Melopsittacus undulatus*; *Edolius grandis*; *Eclectus polychlorus*; *Pycnonotus jocosus*; *Pycnonotus atricapillus*; *Calliope Kamtschatkensis*.

*Vipera Russellii*; a *Cobra*; a *Sus Andamanensis*; *Gyps Bengalensis*; *Oriolus melanocephalus*; *Pteropus Edwardsii*; one *Lutra Nair*.

*Limulus rotundicauda*; *Platanista Gangetica*.

W. S. Atkinson, Esq. — **A** specimen of fossil wood from the petrified forest of Cairo. A nest of *Nectarinia Nepalesis* and of a *Nectarinia*, sp.?

J. Avdall, Esq. — Specimens of Burmese Candle and ear-ring.

Barrackpore Park Menagerie. — Specimen of *Struthio-camelus*.

H. F. Blanford, Esq. — Two *Tudora ferruginea*, Europe; *Melanopsis Esperi*, Transylvania; **2** *Melanopsis thermalis*, Europe; **2** *Melanopsis acicularis*, Europe; **6** *Nanina ligulata*, Madras; **2** *Cyclostoma*

*costulatum*, Europe; *Cyclotus corrugatus*, Jamaica; one *Rhiostoma Housei*, Siam; one *Philopotamus decussata*, Ceylon; 6 *Pomatias maculatum*, Europe; 2 *Clypeaster*, Pondicherry.

W. T. Blanford, Esq.—*Gallus Sonneratii*; *Galloperdix lunulosa*; *Fuligula rufiana*; *Antilope quadricornis*; 2 heads and fore and hind legs of *Bos Gaurus*.

Col. D. Brown.—Skins of *Psitta cucullata* and *Scolopax rusticola*.

J. A. Cockburn, Esq.—*Python molurus*.

Major B. Ford.—Three skulls and an incomplete skeleton of a child; a *Hydrosaurus salvator* in spirit; a few edible swallow's nests; an incomplete skeleton of *Sus Andamanensis*; an Andaman bow and a fishing basket; and specimens illustrating the Conchology of the Andaman Islands.

One Gecko, two Lizards and one Snake in spirit from the Andamans.

A collection of snakes, lizards and crustacea from the Andaman Islands.

A box of mineral and vegetable specimens from Barren Island.

Specimens of *Crustacea*, *Echinodermata*, centipedes and snakes from the Andaman Islands.

THE Government of Bengal.—A box containing a specimen of sand poured forth near Thanna Roajan in Chittagong on the occasion of the Earthquake of December, 1865.

THE Government, N. W. P.—A specimen of the "Madar" bark fibre, and specimens of thread, cord and cloth made from the same fibre, with specimens of cloth made from the cotton, and cotton and fibre of the Madar."

A. Grote, Esq.—Two specimens of *Enhydrina Bengalensis*; one of *Lepus ruficaudatus*; one new born foal of *Equus caballus*; three eggs of *Colotes versicolor*; four specimens of live *Geckos*, and one of a Python. Skeleton of an Alderney bull.

P. Hartnell, Esq.—A specimen of *Xiphias Gladius* (sword fish) from the Bay of Bengal.

S. Jennings, Esq.—A specimen of a flying lizard, *Draco Dussumieri*.  
A specimen of *Aprosmictus scapulatus* (king parrot) of Australia.

W. H. Johnson, Esq.—Old brick tea from ruins near Ilchi; also from Karakas, Karakorum pass, Kiam hot springs in Changchemmo, and Doar in Khotan. Grasses from Khotan.

Five brass images from near the Changchenmo, one pair of boots from Khotan, one cap, one box, one carpet, one praying wheel.

M. Lloyd, Esq.—A packet of specimens of supposed indigenous tea (*Eurya Chinensis*) from Tounghoo.

Capt. T. H. Lewin.—Specimens of clothes worn by the Hill tribes of Chittagong.

Major B. Macbean.—A specimen of an ap-country bull.

Mrs. H. Mackenzie.—An abnormal skull of a dog from N. China.

Dr. C. MacClelland.—A case of upper cretaceous fossils from Cherrapunji.

Moonshee Mahomed Hossein.—A brick from the temple at Buddha Gya, measuring  $15.6 \times 10.5 \times 3.2$  inches.

J. Obbard, Esq.—3 Marine boring Annelids.

Lt.-Col. A. P. Phayre.—Three Burmese skulls, and one from the Shan states.

Kumar Pramatha Natha Roy.—*Carcharius Milherti* (Ganges).

Babu Protap Chunder Ghoshe.—*Onychocephalus acutus*.

Babu Rajendra Mullick.—Specimens of *Poephagus Grunniens* (yâk); *Nasua rufa* (Coaiti mundi); *Ceriornis Satyra* (Tragopan); *Anser Indicus* (bare headed goose); *Psittacus erythacus* (grey African parrot);

2 *Bos Grunniens*; one *Dama vulgaris* (fallow Deer); one *Dromaius Novæ Hollandiæ*; one *Grus Antigone* and one *Ara ararauna*.

Babu Rajendra Lala Mittra.—One *Felis Pardus*, and one *Oriolus melanocephalus*.

THE Rev. A. B. Spry.—A box of bird skins from Malacca.

W. C. Taylor, Esq.—A large collection of insects chiefly from Darjiling.

D. Waldie, Esq.—Specimens of pseudomorphs of Peroxide of Iron  
after Pyrites.

J. Westmacott, Esq.—Specimens of canes, rattans and a skull of a  
deer from Jessore.

The following were purchased :—

A skeleton of a Bhootea ; *Canis familiaris*, *Felis Bengalensis*.  
*Ciconia alba*, *Felis chaus*, *Electus polychloros*. *Graculus carbo*,  
*Electus grandis*, *Loriculus pumilus*. *Grus Antigone*, *Lophophorus*  
*Impeyanus*. *Mycteria Australis*, *Casuarias galcalus*. *Paradoxurus*  
*Musanga*. *Coreus splendens*. *Euphocomus albo-cristatus*. A brass  
tea-pot from Khotan.

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PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR JANUARY, 1866.

—●●—

The Annual General Meeting of the Asiatic Society was held on Wednesday the 17th January, 1866.

A. Grote, Esq., President, in the chair.

The Secretary read the Council's Report for 1865 :—

ANNUAL REPORT.

The Council have much satisfaction in being able to report that, during the past year, the activity of the Society has been equal to that of any former period. There has not indeed been any increase in the number of its members on that of the previous year; on the contrary, there has been a slight diminution on the total number, and a considerable diminution of paying members. But in every department, there has been increased activity; and many alterations and reforms have been introduced, tending, as the Council believe, very materially to the advantage of the Society.

Of the ordinary members of the Society, 25 have withdrawn during the past year, and 11 are deceased, making a total loss of 36 members. The number of elections has been 32 only, so that there is a diminution of four on the member list of the previous year, 376 against 380.

The following tabular statement of the number of ordinary members of the Society for each year of the last decade shews, that while the total number for the past year is only 4 less than that for 1864, the great increase of absentee members has caused a diminution of 21 on the list of subscribing members. The total number of the latter is now 267, of which 121 are resident. The Council trust that the election of new members during the ensuing year may compensate for the unusual number lost by death and withdrawal during that just ended.

	<i>Paying.</i>	<i>Absent.</i>	<i>Total.</i>
1856, .....	131	36	167
1857, .....	109	38	147
1858, .....	193	40	233
1859, .....	135	45	180
1860, .....	195	47	242
1861, .....	225	55	281
1862, .....	229	82	311
1863, .....	276	79	355
1864, .....	288	92	380
1865, .....	267	109	376

Among the honorary members, the Council regret to record the death of Dr. Hugh Falconer, long a member of the Society, and one whose name is indissolubly associated with its labours. The closing volume of its *Researches*, published in 1836, contains not less than 5 papers from Dr. Falconer, then in the midst of his Sewalik discoveries; and 3 other papers on the fossils from that interesting range of hills were published by him about the same time in vols. 5 and 6 of *Prinsep's Journal*. In 1834, he had previously drawn attention, in the same *Journal*, to the aptitude of the Himalayan range for the culture of Tea. A letter from him, when at Saharanpore, seems to have conveyed to Calcutta the first intelligence of the great cataclysm of the Indus in 1841, the cause of which had the greater interest for him, in that he had then recently returned from an expedition to Cashmere and the great glaciers of the Mustagh range. In the following year, Dr. Falconer went to England, where, besides contributing many papers to the Royal, Asiatic, Geological and Linnean Societies, he commenced with Col. Cautley the '*Fauna Antiqua Sivalensis*,' the text of which has unfortunately been left incomplete. On his return to India in 1848, his residence in Calcutta enabled him for the first time to be an office-bearer of the Society, and before finally leaving India in 1855, he undertook the arrangement, in their Museum, of the tertiary fossils with which his earlier researches had made him so familiar. During the 10 years which followed on his return to England, he contributed to the Geological Society an important paper 'on the species of *Mastodon* and *Elephant* occurring in the fossil state in England', the 2nd part of which, though read so far back as 1857, has been published in that

Society's Journal since his death. Another paper on the pigmy Elephant of Malta, read before the British Association at Cambridge, excited great interest. His later studies were devoted to that subject which is now so prominently occupying the thoughts of men of science, the antiquity of man; and his last written communication was in connexion with this, being a report to the Government which he drew up with Prof. Busk on some recently discovered cave deposits in Gibraltar. Dr. Falconer was, at the time of his death, a Vice-President of the Royal Society, and Foreign Secretary of the Geological Society. A resolution expressive of its deep regret on the announcement of the loss which this event occasioned, was recorded in this Society's proceedings for April last, and a subscription has been raised among its members for a bust, which it is hoped will be in its place in the meeting-room before the next anniversary meeting.

Mr. Edward Blyth, who, as an Associate of the Society and Curator of the society's museum, during a period of 21 years, brought together and described the greater part of the Zoological collections in the museum, and whose numerous writings in the Society's Journal form an important part of the literature of Indian Zoology, has been elected to the vacancy on the roll of honorary members, caused by the death of Dr. Falconer.

The Rev. C. H. Dall has been elected during the past year as an associate member of the Society.

Among the ordinary members, the Council have to regret the loss by death of Mr. E. O. Riley, whose paper on the Lake of the clear water in Burmah was published in the XXXIII. Vol. of the Society's Journal: also Brig.-Genl. Showers, the Hon'ble E. P. Levinge. Lieut. J. H. Urquhart, R. E., Lieut.-Col. P. Stewart, R. E., Bábu Moodoosuddun Doss, R. T. Martin, Esq., W. Forbes Goss, Esq., Rájá Chunder Sekur Roy, and Moulavi Waheendeen Nubee Khán Bahádur.

#### MUSEUM.

In no department has greater progress been made during the past year than in the Society's museum. In the month of June, Dr. J. Anderson was appointed Curator of the Imperial Museum, and permitted by Government to assume charge of the Society's collections. Dr. Anderson immediately undertook the re-arrangement and resto-

ration of the specimens, which, since the departure of Mr Blyth, had necessarily only received such care as was absolutely requisite to ensure their simple preservation. The museum was at the same time closed to the public for repairs, and for re-painting and whitewashing the interior. With a view to provide more light, especially in the lower rooms, the interior of the cases, the stands of the specimens, &c. were painted white, and the cases and larger specimens at the same time so re-arranged, as to obstruct as little as possible the side lights of the lower rooms. The smaller osteological specimens, which had previously been exposed to dust and injury, were arranged in cases, and the larger re-arranged with less crowding than before, and protected by a light railing. The stuffed animals were re-arranged and protected in a similar manner, in the room formerly occupied by the reptiles and fishes; and the valuable antiquities, which had previously been exposed to the deteriorating action of the weather in the museum compound, and many of which had been lost to sight amid the vegetation, were brought into the museum, thoroughly cleaned, and arranged along the walls of the museum, so as to display them in a manner previously unattempted. In order to provide more space for these and the Zoological specimens, the collections of rock specimens and minerals, which were of comparatively little interest to the public, and the importance of which has been in a great measure superseded by the formation of the Geological Museum in Hastings Street, were removed from their cases, carefully labelled and packed in cases, to be kept in the museum godowns, until the provision of more space may permit of their being arranged in drawers and thus rendered available to those who may wish to refer to them. Notwithstanding these measures, the space available for the Zoological collections has been found insufficient, and the specimens remain inconveniently crowded, but the Council have addressed Government with a view to the temporary provision of space elsewhere, until such time as the new museum building may be made ready; and they trust that it may shortly be in their power so to provide for this part of their collections, as to place them beyond risk of further injury. In addition to effecting these important improvements, Dr. Anderson has addressed himself to enlarge the Ethnological collection, and a circular, drawn up by him, has been issued in the name of the Society, soliciting the assistance of the different Governments of India

and of members of the Society, in extending the Society's collection of human crania. The Government of Bombay has replied favorably to this application, and the Society has already received some contributions from private donors, and promises of further aid which augur favourably for the success of the undertaking. Dr. Anderson has also commenced the formation of a collection of casts of the head and bust of the various aboriginal races of India, and such foreign races as are to be found in Calcutta, or can be procured elsewhere. Similar casts of some of the monkey tribes have also been taken, and will be added to, as opportunity may serve. The reptilian collection has been examined, compared, and catalogued by Mr. W. Theobald, Jr., and the catalogue is now in the press preparing for publication. Some specimens have also been presented to the collection by Mr. Theobald.

The collection of Madrepores which, like the Invertebrate collections in general, (with the single exception of the shells arranged and catalogued by Mr. Theobald, in 1860) have hitherto been in a sadly neglected state, unnamed and unarranged, and so small in number as most inadequately to represent this important fauna, even for our own coasts, have been cleansed, and will shortly be arranged, together with a fine series from the Arracan coast, presented by Mr. Theobald, in a case or cases specially provided for them. Mr. Atkinson has presented a fine series of Lepidopterous insects, but these again cannot be exhibited, until the insect cases, long since ordered, shall arrive from home, and be placed in the museum. It has hitherto been a reproach to the museum, that but one, and that the smallest, of the five sub-kingsdoms of animated nature, has been at all adequately represented. The collection of Mollusca, which stands next in order, is equalled if not surpassed, by more than one private collection in Calcutta; of the greater part of the Annulosa, nothing worthy of being called a collection exists, and the same must be said of the Echinodermata and Protozoa. Of the sub-kingdom Cœlenterata, the corals, already mentioned, are the only representatives. The Council earnestly desire that attention may be given to providing some more worthy representation of these neglected departments of Indian Zoology, and invite the donations of members with a view to this end. They have hitherto abstained from making any such appeal, being aware that the limited means of the Society did not admit of their providing for the preservation

and arrangement of a greatly increased Zoological collection. They believe, however, that they may now venture to do so, with confidence that under Dr. Anderson's direction, the Invertebrate collections, henceforth to be added to the Museum, will be fully cared for, and their importance duly appreciated.

Besides the donations already mentioned, the Society have received many others of considerable importance. A highly interesting and perfect specimen of a Meteorite which fell in the neighbourhood of Jessore in May, 1865, has been presented by Baboo Gour Doss Bysack; and a stone of large dimensions, and exhibiting some peculiar external characters, which fell near Shergotty in August, 1865, has been most liberally presented by His Honor the Lieutenant-Governor. In connection with these, the Council feel it their duty to express their obligation to Mr. H. H. Locke, to whose careful superintendence the Society are indebted for a series of models of these stones, produced with a fidelity, which they believe will be highly appreciated by the European Museums to which they have been or will be presented. They cannot too highly appreciate the advantages offered by the School of Art, under Mr. Locke's direction; both in enabling the Society to procure accurate and artistic models of meteorites, and ethnological and other casts, and also in furnishing illustrations for their publications, of an excellence and accuracy of execution, hitherto but rarely obtainable in Calcutta. Some specimens of meteorites, some of which are new to the Museum, have been received from Professor Shepard. From Mr. Blyth the Society has received a fine series of skulls, with a few other specimens; from Dr. Williams, late of Mandalay, and from Dr. Jerdon, collections of birds' skins; and from Baboo Rajendra Mullick, a large number of birds and mammals. Dr. Stoliczka has presented some specimens of birds, and a *Lagomys* from the snow region of the N. W. Himalaya, which had long been a desideratum in the Museum. To Major Ford of Port Blair, the Society are indebted for 3 Andaman skulls, and a fine collection of shells; and to Lieut. Beavan, Col. Tytler and many other donors, for Zoological specimens of various kinds which have been enumerated in the Society's proceedings.

From Col. Fytche and Major Ford, the Society have received specimens of the weapons and manufactures of the Andaman Islanders;

from Mr. Westfield, Genl. Tombs, Captain Godwin Ansten, and Lieut. Wallace, specimens of arms, implants, and other works of the Booteas and Thibetans; and from Col. Saxton, the implements used in the Meriah sacrifices in Goomsoor. A fine statue in beaten brass, of the Dhurm Rajah of Bhotan, presented by Captain Hidayut Ali, now forms a prominent object on the staircase of the museum.

In quitting the subject of the museum, the Council express a hope that the considerable expenditure which has been incurred in its restoration and re-arrangement, will be considered amply justified by the great improvement which it now exhibits. They are, however, fully impressed with the inability of the Society to continue to meet the heavy monthly outlay which the maintenance of the museum demands, and they have the whole subject now under consideration, with a view to providing for the future support of the museum, without trenching so seriously, as during the last few months, on the somewhat limited means of the Society.

#### FINANCE.

The Council have the satisfaction to report that the measures, adopted during the past year to realize the arrears due to the Society's funds on account of entrance fees and subscriptions, have been more successful than in previous years. It having, however, been ascertained that many members had never received the notices which from time to time had been sent informing them of their liabilities, registered letters were issued in December last, to all who were more than one year in arrears. Satisfactory answers have been already received to some of these calls—and it is hoped that ere long the remaining arrears, amounting to Rs. 7,487, will be all realized.\*.

The outlay of the Society's funds has been larger than usual, and will necessitate the sale of Government securities to the extent of about 1,500 Rs. which it is proposed to replace on realization of the arrears above noticed.

\* Of this amount Rs. 3,482 are for arrears of subscription of more than one year's standing.

Outstanding for sale of Journal,.....Rs.	107
Ditto ditto Subscriptions, ... ..	568
Ditto ditto sale of Library books, .....	537
Ditto ditto Admission Fees, .....	448



The principal items of extra expenditure have been the following :

In repairs to house, .....	Rs. 1,764
Refitting and re-arranging the Museum, .....	3,360
In printing and editing the Journal,* ..	1,006

The sums realized from members during the past year amount to Rs. 10,373. This is in excess of the average of the past ten years by Rs. 2,700. Of the above total, Rs. 928 were for admission fees, and Rs. 9,445 for quarterly subscriptions.

Comparing the actuals of this year with the estimate, the results are as follows :

INCOME.				
	Estimate.	Actual.	Deficit.	Excess.
Admission fees, .....	1,600	928	672	...
Subscriptions, .....	8,500	9,445	...	945
Journal, .....	600	758	...	158
Library, .....	300	193	107	...
Museum, .....	1,500	6,037†	...	4,537
Secretary's Office, .....	20	34	...	14
Coin fund, .....	30	236	...	206
			779	5,860
			Excess,	... 5,081
EXPENDITURE.				
	Estimate.	Actual.	Saving.	Excess.
Journal, .....	3,500	3,272	228	...
Library, .....	2,500	2,500	...	...
Museum, .....	1,500	6,468†	...	4,968
Secretary's Office, .....	2,350	2,349	1	...
Building, .....	1,800	2,340	...	540
Coin fund, .....	250	386	...	136
Miscellaneous, .....	400	265	135	...
			364	5,604
			Expenditure excess,	... 5,280
			Income ditto,	... 5,081
			Difference,	... 159

\* This shows the excess cost over the average of other years.

† The expenditure of the Museum was estimated at the beginning of the last year for three months only, in the expectation that it would be transferred to the Government.

The following statement shews the estimated income and expenditure for 1866.

INCOME.			
Admission fees, .....	Rs.	1,000	0 0
Subscriptions, .....		8,500	0 0
Journal, .....		600	0 0
Library, .....		200	0 0*
Museum, .....		6,000	0 0
Secretary's Office, .....		20	0 0
Coin fund, .....		100	0 0
*Sale of Government Securities, .....		1,500	0 0
		17,920	0 0

EXPENDITURE.			
Journal, .....	Rs.	3,500	0 0
Proceedings, .....		900	0 0
Library, .....		2,000	0 0
Museum, .....		6,000	0 0
Secretary's Office, .....		2,350	0 0
Building, .....		2,500	0 0
Coin fund, .....		320	0 0
Miscellaneous, .....		350	0 0
		17,920	0 0

The accounts for the year have been prepared and submitted to the Auditors as usual, and will be laid before the Society as soon as finally passed by them.

#### OFFICERS.

The great increase in the Honorary work of the Society, which has been caused by the increase of its number of members during the past few years, by the increase in its publications, and various other work, has induced the Council, on the report of the Secretary, to increase the number of Honorary officers from two to four; so distributing the work, that each officer should undertake a special department and

\* This will only be necessary, in the event of outstanding arrears not being realized as anticipated.

thus relieve the two Secretaries (frequently one only) from the excess of work imposed by the previous arrangement. Col. Gastrell kindly consented to officiate as Treasurer, and two special Secretaryships of Natural History and Philology, History, &c. were established and accepted respectively by Dr. J. Anderson and Bábu Rájendra Lála Mitra, Mr. Blanford retaining the general work of correspondence, and the transaction of the ordinary current business of the Society's proceedings. This measure was announced to the Society for confirmation in July last, since which it had been in force, and the Council believe greatly to the benefit of the Society.

Bábu Lál Gopál Dutt, the Librarian and Assistant Secretary, having applied for six months' leave, the Council have appointed Bábu Protáp Chunder Ghoshe to officiate for him during his absence. Though new to his duties, Bábu Protáp Chunder Ghoshe has applied himself with great zeal, and promises to become a most useful officer. The other officers of the Society remain as at the end of last year, and have continued to give entire satisfaction.

#### JOURNAL.

The change in the form of publication of the Journal announced in the last annual report, was effected at the commencement of the present year, and this, together with the re-arrangement of Honorary officers, has enabled the Society to clear off the large arrears of papers which had accumulated in their boxes; so that it is trusted that, in future, publication may keep pace with the receipt of communications, to the great satisfaction doubtless of authors and readers. It has been found quite practicable, and indeed easy, to classify the papers received, according to the system proposed; and the papers of different characters have the advantage of being edited by gentlemen having special acquaintance with the subject matter, without delay or inconvenience. The increased bulk of the publications has necessarily rendered the expenditure of the Society in this department somewhat heavier than in former years; whether the cost will remain the same or will diminish in subsequent years, must depend on the number of communications received; but the Society will doubtless consider that the cost of the Journal is one of the most legitimate items of expenditure, and will desire that the Journal may suffer no diminution in the quantity or value of the materials received.

Seven numbers of the Journal, viz. three of the Natural History and four of the Historical part, have been issued, and ten numbers of the Proceedings; an eighth number of the Journal, making the fourth of the Natural History part, is now nearly ready for issue, together with the number of the Proceedings for December.

#### LIBRARY.

During the past year, 350 volumes, periodicals, and pamphlets have been added to the Library, the greater part of which have been presentations. The heavy outlay which has been incurred in the repairs of the building and the restoration of the Museum, has not permitted the Society to expend any large sum on the Library. A series of works on Zoophytes have however been purchased, with a view to the determination and arrangement of this part of the Zoological collection, which Dr. Stoliczka has kindly offered to undertake. Considerable progress has been made in the preparation of a new and classified catalogue, long an urgent necessity; the former catalogue having become in a great measure obsolete, owing to the large additions made to the Library since it was prepared. The catalogue now preparing will be classified according to subjects, with a descriptive index arranged alphabetically, and it is proposed to publish an annual Supplement arranged in like manner.

#### *Bibliotheca Indica.*

Twenty-six numbers of the Bibliotheca Indica have been issued during the past year, including portions of twelve different works. One of these is Arabic, two are Persian, seven Sanskrit, and two translations from the Sanskrit.

In the new series, Major Lees has completed his edition of the *Wis-o-Ramin*, an ancient Persian poem of great merit; and Maulavis Abdul Hak and Ahmed Ali have brought out three fasciculi of the *Ikbál-námeh Jahángirí*, a biography of Jehángir, which, with the *Tojuk-e Jahángirí*, lately published at Alighar, will place at the disposal of the Oriental scholar the most authentic materials available for a correct history of the reign of that distinguished emperor. As a sequel to it, the Council have lately sent to press the *Álamgír-námeh* of Mohamed Kázim, and intend to follow it up by editions of the *Bádsháh-námeh* of

Abdul Hámid Lahourie and the *Tárikh e Bahádursháhi*, to complete their series of the standard histories of the native histories of Delhi.

Of Sanskrit works in this series, the Council have to record the completion of the *Brihatsaṅhitá* of Varáha Mihira, an astronomical work of great value, edited by Dr. H. Kern; the *Nyáya Darsana* of Gotama with the commentary of Vátsáyana, edited by professor Jayanáráyana Tarkapanchánana; the *Nárada Pancharátra*, edited by Rev. K. M. Banerjea; the *Sáṅkhyasára* of Vijñána Bhikshu, edited by Dr. Fitz-Edward Hall; and the *Das'arupa* or Hindu Canons of Dramaturgy by Dhananajaya with the exposition of Dhanika, by the same editor. The late Dr. Ballantyne's translation of the *Sáṅkhya Aphorisms* of Kapila has also been completed by the publication of its concluding portion.

Of works in progress, Pandit Rámanáráyana Vidyáratna has issued seven fasciculi of the *Srauta Sutra* of Āswaláyana, Bábu Rájendralála Mitra has brought out a fasciculus of the *Taittiríya, Áranyaka*, and Pandita Maheschandra Nyáyaratna, a fasciculus of the *Mimáṃsá Darsana* with the commentary of Sávara Swámi.

In the old series, Bábu Pramadádása Mitra has brought out two fasciculi of his continuation of Dr. Ballantyne's translation of the *Sáḥitya Darpana*, and Major Lees and Bábu Rájendralála Mitra are engaged in their editions of the Biographical Dictionary of Ibn Hajar and the *Taittiríya Brahmana* of the Black Yajur Veda.

The following are lists of the different works published, or are in course of publication, in the old and the new series :—

#### *Of the New Series.*

1. The *Iqbálnámah-i Jahángirí*; of Motamad Khan, edited by Maulawis Abd Al-Haqq, and Ahmad Ali, Nos. 77, 78 and 79. Fasc. I, II and III.

2. *Wis-O-Rámin*, an ancient Persian poem by Fakr al-din, As'ad al-Astarabadi, al-Fakhri, al Gurgáni, edited by Capt. W. N. Lees, L. L. D. and Munshi Ahmad Ali, No. 76. Fasc. V.

3. The *Mimáṃsá Darsana*, with the commentary of Savara Swámin, edited by Pandita Mahésa Chandra Nyáyaratna. No. 85, Fasc. II.

4. *Sáṅkhya-Sára*, a treatise on Sankhya Philosophy, by Vijñána Bhikshu, edited by Fitz-Edward Hall, D. C. L. Oxon, No. 83.

5. The *Das'a-Rupa*, or Hindu Canons of Dramaturgy, by Dhanan-

jaya; with the exposition of Dhanika. The Avaloka edited by Fitz. Edward Hall, D. C. L. No. 82, Fasc. III.

6. The Sāṅkhya Aphorisms of Kapila with extracts from Vijñāna Bhikṣu's commentary, translated by J. R. Ballantyne, LL. D. No. 81, Fasc. II.

7. The Nārada Pancharātra, edited by Rev. K. M. Banerjea. No. 75, Fasc. IV.

8. The Taittirīya Aranyaka of the Black Yajur Veda, with the commentary of Śāyanāchārya, edited by Bābu Rajendralala Mitra, No. 74, Fasc. II.

9. The Nyāya Darsāna of Gotama with the commentary of Vāt-sāyana, edited by Pandita Jayanārāyaṇa Tarkapāṇāna. No. 70, Fasc. III.

10. The S'rauta Sutra of Ās'walāyana with the commentary of Gārgya Nārāyaṇa, edited by Rāma Nārāyaṇa Vidyāratna, Nos. 69, 71, 80, 84, and 86. Fasc. IV., V., VI., VII., and VIII.

11. The Brihatsaṅhitā of Varāha-Mihira, edited by Dr. H. Kern, Nos. 68, 72, and 73. Fasc. V., VI., and VII.

The Muatakhāb Al-Twārīkh of Abd Al-Qādir Bin i Malūkshah, edited by Capt. W. N. Lees, LL. D. and Maulawī Kabir Aldin Ahmad and Munshi Ahmad Ali. Fasc. V.

*Of the Old Series.*

1. A Biographical Dictionary of persons who knew Mohammad, by Ibn i Hajar, edited in Arabic by Maulawies Abd-al Haqq and Gholām Qādir and Capt. W. N. Lees, Nos. 209, 211, and 214. Fasc. IV., V., and VI.

2. The Sāhitya-Durpaṇa or Mirror of Composition, a treatise on literary criticism; by Viś'wanātha Kavirāja, translated into English by Babu Pramādādāsā Mitra and the late James R. Ballantyne, LL.D., Nos. 212 and 213. Fasc. I. and II.

3. The Taittirīya Brāhmaṇa of the Black Yajur Veda, with the commentary of Śāyanāchārya, edited by Babu Rajendralāla Mitra. No. 210, Fasc. XX.

*Coin Cabinet.*

The only contribution of any moment received for the Numismatic Cabinet is a collection of miscellaneous coins from Capt. Stubbs, including several copper Bactrians, a few silver Greeks and Pathans, and a

gold *hán*. But advantage has been taken of an order of the Government of India to melt down all native coins with a view to withdraw them from circulation, and a large number of Pathan, Moghol, and Náráyani coins have been purchased from the Mint at the price of bullion. A good set of Assam silver coins and some dated Bengal Pathans have also been secured for the Society by exchange of duplicates.

The report having been read, it was moved by the President and voted unanimously, that the report just read be approved.

The meeting then proceeded to elect the Council and Officers for the ensuing year.

It was proposed by the President and agreed to, that Dr. S. B. Partridge and Mr. H. Leonard be appointed Scrutineers of the ballot.

The ballot having been taken, the President announced, on the report of the Scrutineers, that the following gentlemen had been elected to serve on the Council for the ensuing year.

#### COUNCIL.

E. C. Bayley, Esq. *President*.

Dr. S. B. Partridge.

Bábu Jádavakrishna Singh. } *Vice Presidents*.

W. L. Heeley, Esq.

A. Grote, Esq.

Major W. N. Lees.

W. S. Atkinson, Esq.

Dr. J. Fayrer.

Dr. T. Anderson.

Dr. D. Boyes Smith.

W. Stokes, Esq.

Lieut.-Col. J. E. Gastrell, *Treasurer*.

H. F. Blanford, Esq., *General Secretary*.

Bábu Rajendralála Mitra, *Philological Secretary*.

Dr. J. Anderson, *Natural History Secretary*.

The President then addressed the meeting as follows :—

“ I had proposed, before making over the Chair to my successor on this occasion, to read some remarks to the Meeting on the Proceedings of our Society during the past year, but the leisure for preparing them

has failed me, and my address, which would I fear under any circumstances have been a very imperfect one, is fortunately the less necessary, in consequence of the fullness of the Council's report which has just been read to you.

"There is cause, I think for congratulating the Society on the progress of its labours described in that report, and on the success which has marked its efforts for extending the influence of its Journal, and for improving the condition of the Museum. For the change in the form of the Journal we are indebted to our able and assiduous Secretary, Mr. Blanford; it was at his suggestion that the Council adopted the present double publication, a form which at once adapts the Journal for wider circulation, and leaves our members free to call only for that Part of it in which they take an interest. For the improvements so conspicuous in the Museum, the Society has mainly to thank the Curator of the new Indian Museum, Dr. J. Anderson, who by permission of Government, is in charge of the Society's collections. The Council have done all in their power to give Dr. Anderson the means of making these improvements, and they trust with the assistance of Government to enable him to push them further, pending the construction of the new building, to which the collections are eventually to be transferred.

"The Philological Committee has, perhaps, on the whole, been more active during the year than the other Committees of the Council. The loss of our late able Secretary, Mr. Cowell, has, however, been much felt by that Committee as well as by the Council. Now that Mr. Cowell has finally determined on not rejoining his Indian appointment, I take this opportunity of laying before the Meeting the sense entertained by the Council of the great services rendered to the Society by that eminent scholar during his incumbency. His qualifications are likely to be more especially missed shortly, if, as proposed by the Philological Committee, the Society carry out the undertaking of publishing a revised edition of the *Ayin-i-Akbari*.

"The report has noticed the progress made in the publication of the series of Persian historians. I see that exception has been taken by an oriental scholar at home to the omission, by the editors of the works published, of the general histories with which the historians always commence. I doubt whether such objections will be shared



by orientalist generally. It would have added considerably to the costliness of the publication, had the MSS. been published in full, and the continuity of the series is better preserved by omitting an unnecessary repetition.

"I am glad to find, in the report, a recognition justly due to Mr. Locke, of the services which he and his School of Art have lately rendered to the Society. I may point to the casts now on the table in evidence of the value of those services in one branch of art only. There is promise, I am glad to say, of further assistance from him in other branches. I cannot conclude these brief remarks without expressing the same acknowledgments of the Council and of myself personally to Mr. Blanford, Dr. J. Anderson and Bábu Rájendralala Mitra for the zeal and ability with which they have discharged their Secretariat duties during the year, and to Lieut.-Col. Gastrell for the earnestness with which he has taken up the charge of the Society's finances since his appointment as Treasurer."

The meeting then resolved itself into an Ordinary Monthly Meeting.

The minutes of the previous meeting were read and confirmed.

The following presentations were announced :—

1. From His Highness Ráma Varmá, the First Prince of Trivándrum, a copy of "a letter on the utility of the study of the Sanskrit Language."

2. From Major J. G. Gowan, a copy of "Iconologia or Moral Emblems," by C. Ripa.

3. From W. S. Atkinson, Esq., a specimen of fossil wood from the petrified Forest of Cairo.

4. From Bábu Rám Doss Sen, a copy of an Address on the Language and Literature of Asia, by F. Sedden, Esq.

5. From Major B. Ford, Port Blair, three skulls, and an incomplete skeleton of a child; a *Hydrosaurus salvator* in spirit; a few edible swallows' nests, an incomplete skeleton of *Sus Andamanensis*; an Andaman bow and a fishing basket; and specimens illustrating the Conchology of Andamanese Islands.

The following letter accompanied these donations :—

"I have taken advantage of the opportunity afforded me by the kind offer of Dr. David B. Smith on his present visit to the Settlement,

to forward, for the acceptance of the Asiatic Society, a selection illustrative of the conchology of the Andaman Islands.

"I am uncertain as to whether I forward anything not already in the possession of the Asiatic Society. I may mention, however, that in making the selection, an effort has been made of sending as many varieties as possible. Dr. Smith has kindly undertaken to have those shells now sent, properly identified and classed, and to let me know of any wanting to make the selection a better one, which I will endeavour to do.

"I take this opportunity of sending by the kind care of Dr. Smith, three skulls which are known to be those of Andamanese. I have seen the circular lately put forth by the Society regarding craniological researches, and I shall be glad if these specimens now sent be found to afford any further knowledge or clue to the origin or distinctive characteristics of this new Island race. I have also entrusted to Dr. Smith's care, 2 skulls of the *Sus Andamanensis*, also a Black Saurian which I believe to be peculiar in its distribution to these Islands, and a few more objects that may be of interest.

"(Signed) B. FORD, Major.

Port Blair, 14th Dec., 1865."

Supdt., Port Blair.

The special thanks of the Society to Major Ford were proposed by the President, and unanimously voted.

6. From the Rev. J. Long, the following books:—

Stubelii, A. Basilii, *fabri sorani* Thesavrvs Ervditionis Scholasticæ. *Lipsiæ*, 1717, folio.

Bocharti, S. Hierozoicon sive bipartitum opus de Animalibus S. Scripturæ. *Lugduni Batavorum*, 1692, fol.

Bocharti, S. Hierozoici sive bipartiti operis de Animalibus S. Scripturæ. *Lugduni Batavorum*, 1692, fol. pars posterior.

Vossii, Etymologicon Lingvæ Latinæ. *Lugduni*, 1664, fol.

Meninski, F. à. M. Linguarum orientalium Turcicæ, Arabicæ, Persicæ institutiones seu Grammatica Turcica. *Viennæ Austriae*, 1680, Royal 4to.

Sharpe, A. G. Syntagma Dissertationum, *Oxonii*, 1767, 4to. Vol. II.

Iudicia è multis quædam virorum reverendorum, Nobilissimorum ac Clarissimorum de laboribus Dn. P. Kirstenii, *Lipsiæ*, 1611, 4to.

Sacy, S. de, Mémoires sur diverses antiquités de la Perse. *Paris*, 1793, 4to.

Catalogo della Libreria Capponi. *Roma*, 1747, 4to.

Aryda, A. Institutiones Grammaticae Arabicae. *Viennae*, 1813, 4to.

Leigh, E. Critica Sacra : or observations on all the Radices, or Primitive Hebrew words of the Old Testament in alphabetical order. *London*, 1662, 4to.

Brigant, M. le, Observations fondamentales sur les Langues anciennes et modernes. *Paris*, 1787, 4to.

Bythneri, V. Lyra Prophetica Davidis Regis sive Analysis Criticopractica Psalmorum. *Londini*, 1653, 4to.

Schultens, A. Excursus primus ad caput Primum viæ veteris et regiae Hebraizandi. *Lugduni Batavorum*, 1739, 8vo.

Masclaf, F. Grammatica Hebraica, a punctis aliisque inventis masorethicis libera. *Parisiis*, 1743, 8vo.

Valckenaer, L. C. Ammonius de adfinium Vocabulorum differentia. *Lugduni Batavorum*, 1739, 8vo.

Paradigmata de quatuor Linguis orientalibus præcipvis, Arabica, Armena, Syra, Æthiopica. *Parisiis*, 1596, 8vo.

A Persian MS., Ferishta's "Guzerat."

On the proposition of the President, the special thanks of the meeting were voted to the Rev. J. Long.

7. From Col. Brown, Moulmein, skins of *Psitta Cucullata* and one *Scolopax Rusticola*.

8. From the Rev. J. Long, on part of J. Avdall, Esq. specimens of a Burmese Candle and Ear-ring.

Mr. D. Waldie remarked that these specimens appeared to be made of paraffine or some similar hydrocarbon. He had seen pieces of such material from Burmah, and the specimen on the table appeared to be of the same character. At the request of the President, Mr. Waldie undertook to examine the specimens and report thereon to the Society.

Letters were read—

1. From the Government of India, Home Department, forwarding ten communications describing storms in various parts of the world, and which had been forwarded for the use of the late Mr. Piddington.

From E. C. BAYLEY, Esq., *Secy. to the Govt. of India.*

TO THE SECRETARY, ASIATIC SOCIETY.

*Dated, Fort William, the 22nd Dec., 1865.*

Home Dept.

Sir,—The Society are doubtless aware that the late Mr. Piddington published a Horn Book on the Law of Storms, and was engaged in collecting materials to enlarge his publication.

Since his death, several communications, ten in number, have been received in this office relating to various storms met with by the writers during their voyages. These communications are herewith forwarded to the Society, for any use they may think proper to make of them.

I have, &c.,

(Sd.) E. C. BAYLEY,

*Secy. to the Govt. of India.*

2. From F. Fedden, Esq., containing a few notes on Fire-flies.

"I see that in Part II., No III. under "Notes and Queries" there has been a slight discussion on the fireflies, as to their emitting their light simultaneously in flashes. The fact is perfectly correct, as described in the quotations from "The Reader" and Cameron's works. I have often observed in parts of Burmah, near the streams in the Bassein district especially, the fireflies appear to hover about the bushes in myriads, and simultaneously emit their intermittent light irrespective of wind or extraneous causes apparently. At times, one end of the bush will commence to emit light, that will spread as a flash across to the other end, by which time the former will be in darkness: or one bush or portion may be illuminated, while another has just been extinguished."

"Have you ever observed the noise the white ants make when disturbed, perhaps at night when committing their ravages on some matting or straw? The noise they cause, always reminds me of the simultaneous flashing of the fireflies. The noise is produced by the white ant sharply driving forward his forceps into anything it may be on (the straw or the matting) and tearing a small fragment away. They do this intermittently and almost simultaneously, one portion perhaps commencing slightly before the mass (as a signal) and ceasing so much earlier."

(Sd.) F. FEDDEN.

Mr. R. D. Stewart observed that he had seen the same rhythmical flashing of the fire-flies at Tallygunge, and Mr. Long had also seen a similar phenomenon near Calcutta.

8. From Mr. W. Theobald, Jr. forwarding some notes on fire-flies.

Referring to a discussion which took place at a former meeting of the Society on the habit of fire-flies flashing simultaneously, Mr. Theobald described a case that he had witnessed in the Irawaddy delta, east of the Bassein river, in which large numbers of fire-flies around some bushes on the bank of the river, emitted their flash rhythmically and simultaneously.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members :—

A. Mackenzie, Esq., Lieut.-Col. D. Broune, Lieut. W. G. Hughes, Capt. F. C. Hamilton, Lieut. G. Seaton, A. Rattray, Esq., J. H. Crawford, Esq. C. S., Major A. Allen, Bābu Gānendra Mohun Tāgore, Rev. J. Barton, J. Low, Esq., J. G. Hicks, Esq.

The following gentlemen were named for ballot as ordinary members at the next meeting.

N. Daly, Esq., Forest Dept., Myanounng, Burmah, proposed by Mr. Theobald and seconded by Mr. Blanford.

G. W. Hoyle, Esq., proposed by Mr. Blanford and seconded by Mr. Locke.

J. H. Johnson, Esq., G. T. S., proposed by Dr. Stoliczka and seconded by Mr. Blanford.

The Rev. J. Cave Brown, Kidderpore, for re-election, proposed by Mr. Grote and seconded by Mr. Blanford.

A letter from R. B. Chapman, Esq., intimating his desire to withdraw from the Society, was recorded.

The Council recommended, on the part the Philological Committee, that the Yōga Darsāna be published in the Sanskrit series of the Bibliotheca Indica.

The Council reported that 136 duplicate bird-skins have been added to the museum during the last two months.

The following communications were received :—

1. From C. Horne, Esq., C. S., "Notes on the Pi-lo-shan-na of General Cunningham."

2. From W. Theobald, Esq., Jr., "Notes and Queries on Zoology."

3. From C. Horne, Esq., C. S., "Notes on an ancient Hindu Temple at Malaon."

4. From Col. J. T. Walker a translation of a paper by Capt. Golubief, "Observations on the astronomical points determined by the brothers Schlagintweit in Central Asia."

5. From W. Masters, Esq., Professor of Kishnaghur College. "A few notes on the earthquakes that lately disturbed Lower Bengal."

6. From Profr. R. Von Schlagintweit of Giessen, "Comparative hypsometrical and physical tableau of High Asia."

This paper of which the following is an abstract, was read by the Secretary.

The object of Mr. Schlagintweit's paper was to give a summary of the Physical features of High Asia, and to institute a comparison of them with the corresponding features of the Alps and Andes. The subject was treated under six heads, viz. : Geographical configuration; Hydrography; the Phenomena of snow, glaciers, &c.; Habitations; Extreme heights visited by man; and the Limits of vegetable and animal life. The author sought to correct the prevailing impression that Tibet is an elevated table land, an idea which still holds its ground, in spite of the writings of Humboldt, Strachey, Cunningham and Thomson. Between the Karakorum and Kunlun, especially over the western crest of the former, there are several elevated tracts of between 16,000 and 18,000 ft. These tracts are below the snow-line, and without vegetation. Beyond these, in the far distance, snowy peaks are perceived, besides which are nothing but barren rocks and extensive sterile plains, well watered however, by glacier streams. The plateaux of the Andes are more extensive than those of the Himalaya, and have large towns at elevations of from 11,000 to 14,000 ft. The mean height of 19 passes in the Himalaya is 17,800 ft; the mean of three in the Karakorum 18,700, and that of two in the Kunlun, 17,000 ft. The highest in the Himalaya is the Gâmin Pass leading from Garhwal to Gnari Khorsum at an elevation of 20,459 ft. In the Andes, the average elevation of the passes is 14,000 ft.

Of the peaks of the Himalaya, 17 exceed 25,000 ft., 40 are above 23,000 ft., and 120 are above 20,000 ft.; the highest is Mount Everest, which is 29,000 ft. The highest of the Karakorum range is that known as K. 2, which is 28,278 ft. in height, and second only to

Mount Everest. None of the peaks yet measured in the Künlun exceed 22,000 ft. The highest peak of the Andes is Aconcagua 28,004 ft. The highest of the Alps are Mont Blanc, 15,784 ft. and Monte Rosa 15,223 ft.

The lakes and springs in the Himalaya were next discussed and compared with those of the Andes; the lakes of the Himalaya were shewn to be of no great size, but to range up to 16,620.

The snows of the Himalaya have been known to extend in winter down to 2,500 ft., but the average limit may be placed at about 5,000 ft. The summer snow-line is lower on the southern than the northern flank of the range, as was first pointed out by Webb and Moorcroft; being 16,200 ft. for the former, and 17,400 ft. for the latter. This anomaly is attributed to the greater dampness of the atmosphere to the south of the range.

The greatest height visited by the brothers Schlagintweit is, as measured by them, 22,239 ft., but Mr. Glaisher has ascended in a balloon to a height of at least 30,000 ft., at which he became unable to take further observations, and it is believed that he rose as high as 36,960 ft. This is the greatest elevation ever reached by man.

On the Himalaya, trees extend up to 11,800 ft. and extensive forests occur a little below this height; grain is cultivated up to the same maximum elevation. Shrubs extend up to 15,200 ft. or nearly the height of Mont Blanc, and in the Karakorum up to 16,419 ft. Monkeys range up to beyond 11,000 ft. and Tigers to the same height in the Himalaya. Neither of these are met with, however, in Western Thibet. Leopards occur at 13,000 and 14,000 ft. and jackals between 16,000 and 17,000 ft. Dogs accompany the Thibetan shepherds up to 18,000 ft. The ranges of some of the lower animals were also noticed. Doves appear to range higher than any other birds.

## LIST OF ORDINARY MEMBERS.

The \* distinguishes Non-Subscribing and the † Non-Resident Members.

Date of Election.		
1847 June	2.	† Abbott, Lieut.-Col. J., Artillery. Umballa
1860 Dec.	5.	Abdool Luteef, Khan Bahadur, Maulavi. Calcutta
1865 June	7.	Agabeg, J. Esq. Calcutta
1860 July	4.	† Ahmad Khan Saiëd, Bahadur. Allyghur
1862 April	2.	† Aitchison, C. U. Esq., C S. Lahore
1862 April	4.	† Aitchison, J. E. T. Esq., M. D. Umritsar
1859 Feb.	2.	* Alabaster, C. Esq. China
1852 July	7.	* Allen, C. Esq., B. C. S. Europe
1864 May	4.	† Alexander, N. S. Esq., C. S. Purneah
1860 Oct.	3.	Amir Ali, Khan, Múnshí. Calcutta
1861 May	1.	Anderson, Dr. T., F. L. S. Calcutta
1865 Jan.	11.	Anderson, Dr. J., F. L. S. Calcutta
1843 Sept.	4.	* Anderson, Lieut.-Col. W., Bengal Artillery. Europe
1864 Dec	7.	Anderson, W. Esq. Calcutta
1860 Nov.	7.	† Anley, W. A. D., Esq., Chaprah
1862 Oct.	8.	Apurva Krishna, Rajah, Bahadur. Calcutta
1859 Oct.	12.	Archer, Dr. C. Calcutta
1861 Sept.	4.	Asghur Ali, Khan Bahadur, Nawab. Calcutta
1861 July	3.	* Asphar, J. J. T. H. Esq. Europe
1864 Dec.	7.	† Atkinson, E. F. T. Esq. Jaunpore
1855 July	4.	Atkinson, W. S. Esq., M. A., F L S Calcutta
1861 Feb.	6.	† Austen, Capt. H. H. G., H. M.'s 24th Foot, Surv. Genl.'s Dept. Dehra Dhoon
1826 Sept.	6.	Avdall, J. Esq. Calcutta
1835 Oct.		* Baker, Col. W. E., Bengal Engineers. Europe
1865 Nov.		Ball, V. Esq. Calcutta
1860 Nov.		Banerjea, Rev. K. M. Calcutta
1864 May		* Barry, Dr. J. B. Europe
1862 Aug.		† Basevi, Capt. J. P., Royal Engineers. Dehra Dhoon
1860 July		* Batten, G. H. M. Esq., B. C. S. Europe
1838 Jan.		† Batten, J. H. Esq., B. C. S. Almora
1859 May		Bayley, E. C. Esq., B. C. S. Calcutta



1861 Feb.		Bayley, S. C. Esq., B. C. S.	Calcutta
1849 June		Beadon, Hon'ble C., B. C. S.	Calcutta
1864 Sept.		†Beames, J. Esq., C. S.	Purneah
1841 April		Beaufort, F. L. Esq., B. C. S.	Calcutta
1861 Sept.		†Beavan, Lieut. R. C., late 62nd B. N. I.	Roorkie
1847 Aug.		*Beckwith, J. Esq.	Europe
1830 Sept.		*Benson, Lieut.-Col. R.	Europe
1862 Dec.		†Bernard, C. E. Esq.	Nagpore
1862 Aug.		Beverley, H. Esq., C. S.	Calcutta
1862 June		†Bhau Daji, Dr.	Bombay
1862 July		Bhola Nath Mullick, Bábu.	Calcutta
1864 Nov.		Bhoodeb Mookerjee, Bábu.	Chinsurah
1840 July		*Birch, Major-General Sir R. J. H., K. C. B.	Europe
1864 May		Bird, Dr. R., Civil Surgeon.	Howrah
1846 Mar.		*Blagrove, Major T. C., 26th Regt., B. N. I.	Europe
1859 Sept.	7.	Blanc, Lieut.-Col. S. J.	Calcutta
1857 Mar.	4.	Blanford, H. F. Esq., A. R. S. M., F. G. S.	Calcutta
1859 Aug.	3.	†Blanford, W. T. Esq., A. R. S. M., F. G. S. Geol. Surv.	Bombay
1864 April	6.	Blochmann, H. Esq., M. A.	Calcutta
1857 Aug.	2.	*Bogle, Lieut.-Col. Sir A., Kt.	Europe
1859 Aug.	3.	Bolie Chand Singh, Bábu.	Calcutta
1864 Mar.	2.	Bowie, Lt G. M. Madras Staff Corps.	Calcutta
1859 Oct.	12.	†Bowring, L. B. Esq., B. C. S.	Bangalore
1854 Nov.	1.	*Boycott, Dr. T., B. M. S.	Europe
1865 May	3.	†Bradford, C. W. V. Esq.	Hooghly
1860 Mar.	7.	†Brandis, Dr. D.	Rangoon
1860 Oct.	3.	†Brandreth, J. E. L. Esq.	Rowal Pindee
1864 Dec.	7.	Branson, J. H. A. Esq.	Calcutta
1862 Jan.	15.	*Briggs, Major D.	Europe
1847 June	2.	*Brodie, Capt. T., 5th Regt., B. N. I.	Europe
1860 Nov.	7.	†Browne, Capt. Horace A.	Rangoon
1863 Aug.	5.	†Bunkim Chunder Chatterjee, B. A. Bábu.	Barripore
1856 Sept.	3.	Busheerooddin, Sultan Mohammad.	Chinsurah
1859 April		Calcutta, Right Rev. Lord Bishop of.	Calcutta
1860 June		†Campbell, C. J. Esq., C. E.	Delhi
1859 Sept.		*Campbell, Dr. A.	Europe
1863 June		Campbell, Hon'ble G.	Calcutta
1860 Jan.		†Carnac, J. H. Rivett, Esq., B. C. S.	Nagpore
1865 Nov.		†Carnegy, P. Esq.	Oudhe
1856 Sept.		Chapman, R. B. Esq., B. C. S.	Calcutta

Date of Election.			
1860 Oct.	3.	†Christian, J. Esq.	Monghyr
1863 Aug.	5.	†Chunder Nath Roy, Cowar.	Natore
1863 April	1.	*Cleghorn, Dr. H.	Europe
1863 June	3.	†Clementson, E. W. Esq.	Moulmein
1864 May	4.	†Cline, G. W. Esq.	Nagpore
1861 Sept.	4.	†Cockburn, J. F. Esq., C. E.	Kurhurbari Colliery
1862 April	2.	Colles, J. A. P. Esq., M. D.	Calcutta
1851 Mar.	5.	*Colvin, J. H. B. Esq., B. C. S.	Europe
1860 Dec.	5.	†Cooper, F. H. Esq., B. C. S.	Delhi
1857 Mar.	4.	*Cowell, E. B. Esq., M. A.	Europe
1861 July	3.	*Crockett, Oliver R. Esq.	China
1862 April	2.	*Dalrymple, F. A. E. Esq., C. S.	Europe
1847 June	2.	†Dalton, Lieut.-Col. E. T., 9th Regt. B. N. I.	Chota Nag- pore
1861 Mar.	6.	†Davey, N. T. Esq., Revenue Survey.	Cachar
1865 May	3.	†Davies, C. Esq.	Rotasghur
1861 Nov.	6.	*Davies, R. H. Esq., B. C. S.	Europe
1864 July	6.	†Debendra Mullick, Babu.	Calcutta
1856 June	4.	†DeBourbel, Major R., Bengal Engrs.	Assam
1861 June	5.	†Denison, His Excellency Sir W., K. C. B.	Madras
1863 Feb.	4.	†Deo Narain Singh, Hon'ble Rajah.	Benares
1863 June	3.	†Depree, Capt. G. C., Royal Artillery.	Chota Nag- pore
1861 Mar.	6.	*Devereux, Hon'ble H. B., B. C. S.	Europe
1862 May	7.	†Dhunpati Sinha Dooghur, Babu.	Moorshedabad
1853 Sept.	7.	Dickens, Lieut.-Col. C. H.	Calcutta
1860 Nov.	7.	Digumber Mitra, Babu.	Calcutta
1861 Jan.	9.	†Dodsworth, W. T. Esq.	Dehra Dhoon
1859 Sept.	7.	*Douglas, Lieut.-Col. C.	Europe
1854 July	5.	†Drummond, Hon'ble E., B. C. S.	Allahabad
1861 Feb.	6.	†Duhan, H. Esq., G. T. Survey.	Dehra Dhoon
1864 Dec.	7.	Dunlop, H. G. Esq.	Calcutta
1860 Jan.	4.	*Duka, Dr. T.	Europe
1861 May	1.	*Earle, Capt. E. L., Bengal Artillery.	Europe
1857 May	6.	*Eatwell, Dr. W. C. B.	Europe
1840 Oct.	7.	*Edgeworth, M. P. Esq., B. C. S.	Europe
1863 Mar.	4.	Eden, Hon'ble A.	Calcutta
1863 May	6.	†Edgar, J. W. Esq., B. C. S.	Cachar
1859 May	4.	*Edmonstone, Hon'ble G. F., B. C. S.	Europe
1865 Feb.	1.	†Egerton, P. H. Esq., B. C. S.	Umritsar

## Date of Election.

1846 Jan.		*Elliott, Walter, Esq., M. C. S.	Europe
1859 Nov.		*Elliott, C. A. Esq., B. C. S.	Europe
1863 April		†Ellis, Hon'ble R. S., C. S., C. B.	Madras
1856 Mar.		*Ellis, Lieut.-Col. R. R. W., 23rd Regt. B. N. I.	Europe
1854 Nov.	1.	†Elphinstone, Capt. N. W. 4th Regt. B. N. I.	Jullundur
1861 Jan.	9.	*Erskine, Hon'ble C. J., B. C. S.	Europe
1856 Aug.	6.	*Erskine, Major W. C., C. B.	Europe
1863 Oct.	7.	Ewart, Dr. J.	Calcutta
1862 Aug.	6.	*Eyre, Col. Vincent, C. B.	Europe
1865 June	7.	Fawcus, Dr. J.	Calcutta
1851 May	7.	Fayrer, Dr. J., B. M. S.	Calcutta
1863 Jan.	15.	†Fedden, Francis, Esq., Geol. Survey.	Calcutta
1865 Aug.	2.	Fenn, S. Esq.	Calcutta
1859 Oct.	12.	†Fisher, A. Esq.	China
1860 Mar.		Fitzwilliam, Hon'ble W. S.	Calcutta
1865 April		Fleming, Dr. J. M. 29th P. N. I.	Barrackpore
1861 Feb.		†Forrest, R. Esq., Civil Engineer.	Etawah
1863 Dec.		†Forsyth, Lieut. J.	Nagpore
1863 June		†Forsyth, T. D. Esq., C. B.	Lahore
1860 Mar.		†Frere, His Excellency Sir H. Bartle, K. C. B., B. C. S.	Bombay
1861 Sept.	4.	†Fuller, Capt A. R.	Lahore
1859 Oct.	12.	†Furlong, Major J. G. R.	Agra
1859 Dec.	7.	Futteh Ali, Maulavi.	Calcutta
1849 Sept.	5.	*Fytche, Lieut.-Col. A., 70th Regt. B. N. I.	Europe
1864 Aug.	11.	†Garrett, C. B. Esq., C. S.	Shahabad
1859 Aug.	3.	Gastrell, Lieut.-Col. J. E., 13th Regt. N. I., Rev. Survey.	Calcutta
1859 Sept.		Geoghegan, J. Esq., B. C. S.	Calcutta
1865 June		†Giles, A. H. Esq.	Dinajpore
1842 Sept.		*Gladstone, W. Esq.	Europe
1859 Sept.		*Goodeve, E. Esq., M. D.	Europe
1862 July		†Gordon, J. D. Esq., C. S.	Pubna
1864 Dec.		†Gooroochurn Dass, Babu.	Jahanabad
1862 Feb.		†Gourdoss Bysack, Babu.	Hooghly
1863 Nov.		†Gowan, Major J. G.	Saugor
1859 Dec.		*Grant, Sir J. P., K. C. B.	Europe
1860 Jan.		Grant, T. R. Esq.	Calcutta
1860 July		Grey, Hon'ble W., B. C. S.	Calcutta
1861 Sept.		†Griffin, L. Esq., B. C. S.	Lahore
1860 Nov.		†Griffith, R. T. H. Esq.	Benares

## Date of Election.

1849 Aug.	1.	Grote, A. Esq., B. C. S., F. L. S.	Calcutta
1861 Feb.	6.	†Growse, F. S. Esq., B. C. S.	Mynpoorie
1862 Feb.	5.	*Guthrie, Col. C. S., Bengal Engrs.	Europe
1847 June	2.	*Hall, F. E. Esq, M. A, D. C. L.	Europe
1860 May	2.	*Halleur, Dr. H.	Europe
1863 June	3.	†Hamilton, Col. G. W.	Delhi
1855 Mar.	7.	*Hamilton, R. Esq.	China
1828 Nov.	12.	*Hamilton, Sir R. N. Esq., Bart., B. C. S.	Europe
1847 May	5	*Hannington, Col. J. C., 63rd Regt. N. I.	Europe
1859 Oct.	12.	*Hardie, Dr. G. K.	Europe
1863 Mar.	4.	Hari Dass Dutt, Bábu.	Calcutta
1862 Oct	8.	*Harrington, Hon'ble H B	Europe
1860 Oct.	3.	†Harris, E. B. Esq, Civil Surgeon.	Deoghur
1861 Feb.	6.	†Harrison, A. S. Esq., B. A.	Behar
1864 Nov.	2	Hatton, C. W. Esq.	Calcutta
1859 Oct.	12.	*Haughton, Lieut.-Col. J. C.	Europe
1848 May	3.	*Hearsay, Maj - Gen Sir J. B, K. C. B	Europe
1862 Aug.	6	Heeley, W. L. Esq, C. S.	Calcutta
1859 Aug.	3	*Henessey, J. B. N. Esq.	Europe
1853 July	6.	†Herschel, W. J. Esq, B. C. S.	Midnapore
1854 Mar.	1.	*Hichens, Lieut. W., Bengal Engrs	Europe
1860 May	2	†Hobhouse, C. P. Esq. B. C. S.	Midnapore
1859 Sept.	7.	†Hopkinson, Major H.	Assam
1863 July	1.	†Horne, C. Esq, C. S.	Mynpoorie
1860 Mar.	7.	Hovenden, Major J. J., Bengal Engrs.	Calcutta
1863 Jan.	15.	†Howell, M. S. Esq, C. S.	Shajehanpore
1860 Jan.	4	†Innes, Major J. J. M	Lahore
1862 Oct.	8	†Irwin, Valentine, Esq., C. S.	Narail, Jessore
1853 Dec.	7	†Ishureeprasad Sinha, Bahadur, Rajah.	Benares
1864 Sept.		Jackson, Hon'ble E.	Calcutta
1861 Jan.		Jackson, Hon'ble L. S., B. C. S.	Calcutta
1841 April		*Jackson, W. B. Esq, B. C. S.	Europe
1851 April		Jádava Krishna Sinha, Bábu.	Calcutta
1864 June		†Jadu Nauth Mookerjee, Bábu.	Rajshahi
1861 Dec.		†James, Major H. R., C. B.	Peshawur
1864 Sept.		†Jardine, R. Esq., C. S.	Etawah
1865 Nov.		Jennings, S. Esq.	Calcutta
1845 Dec.		†Jerdon, Dr. T. C., M. M. S.	Umballa
1847 June		*Johnstone, J. Esq.	Europe
1862 Mar.		*Johnstone, Capt. J., Assistant Com- missioner.	Europe
1859 Sept.	7.	*Jones, R. Esq.	Europe

Date of Election.			
1865 June	7.	†Joykissen Dáss Bahadur, Rajah.	Allyghur
1864 Feb.	3.	Kaliprosonno Dutt, Bábu.	Calcutta
1858 Feb.	3.	Kaliprosonno Sinha, Bábu.	Calcutta
1863 July	1.	*Kane, H. S. Esq., M. D.	Europe
1859 Mar.	2.	Kasinath Roy Chaudhuri, Bábu.	Cásipore, Calcutta
1850 April	3.	*Kay, Rev. W., D. D.	Europe
1861 Dec	15.	†Kempson, M. Esq., M. A.	Bareilly
1862 Jan.	15.	†King, W. Esq, Jr., Geol. Survey.	Madras
1839 Mar.	6.	*Laidlay, J. W. Esq.	Europe
1861 Mar.	6.	*Laing, Hon'ble S.	Europe
1863 Sept.	2.	Lane, T. B. Esq, B. C. S.	Calcutta
1851 Dec.	3.	†Layard, Major F. P.	Bhagulpore
1864 Feb.	3.	†Leeds, H. Esq, Conservator of Forests.	Burmah
1852 April	7.	Lees, Major W. N, LL. D.	Calcutta
1859 Dec.	7.	Leonard, H. Esq, C. E.	Calcutta
1865 June	7.	†Lewin, Lieut. T. H.	Chittagong
1856 Feb.	6.	*Liebig, Dr. G. Von, B. M. S.	Europe
1860 Jan.	4.	Lindsay, E. J. Esq.	Calcutta
1861 Nov.	6.	†Lloyd, Capt. M.	Toung-hoo
1862 Dec.	3.	Lobb, S. Esq., M. A.	Calcutta
1835 Oct.	7.	Loch, Hon'ble G., B. C. S.	Calcutta
1864 Nov.	2.	Locke, H. H. Esq.	Calcutta
1828 July	2.	*Low, Major-General Sir J, K. C. B.	Europe
1861 April	3.	†Lumsden, Major P. S.	Gowhatty
1854 Nov.	1.	*Lushington, F. A. Esq., B. C. S.	Europe
1848 April	5.	*MacLagan, Lieut.-Col. R, F. R. S. E.	Europe
1865 Nov.	1.	†Macgregor, Lieut. C.	Buxa
1853 April	6.	Macrae, Dr. A. C., B. M. S.	Calcutta
1863 Jan.	15.	Maine, Hon'ble H. S.	Calcutta
1860 Jan.	4.	Mair, D. K. Esq, M. A.	Calcutta
1865 Mar.	1.	Malleson, Major G. B.	Calcutta
1862 Sept.	3.	Mallet, F. R. Esq.	Calcutta
1860 July	4.	*Man, E. G. Esq.	Europe
1852 Nov.	3.	Manickjee Rustomjee, Esq.	Calcutta
1861 June	5.	†Mán Sínta Bahadur, Mahárajah.	Oudh
1864 Aug.	11.	*Marks, Rev. J. Ebenezzer.	Europe
1850 Jan.	2.	*Marshman, J. C. Esq.	Europe
1862 Sept.	3.	†Martin, R. L. Esq., B. A.	Dacca
1863 Oct.	7.	†Martin, T. Esq., C. E.	Gowhatty
1863 Nov.	4.	*McClelland, Dr. J.	Europe
1837 Oct.	4.	†McLeod, Hon'ble D. F., C. B., B. C. S.	Lahore
1860 Mar.	7.	†Medlicott, H. B. Esq., F. G. S.	Gwalior

## Date of Election.

1853 April	†Medlicott, J. G. Esq. B. A.	Midnapore
1861 Feb.	†Melville, Capt. A. B., late 67th N. I. Surv. Genl.'s Dept.	Dehra Dhoon
1855 Nov.	*Middleton, J. Esq.	Europe
1850 April	*Mills, A. J. M. Esq., B. C. S.	Europe
1860 April	†Money, A. Esq., B. C. S.	Bhagulpore
1847 April	*Money, D. J. Esq., B. C. S.	Europe
1856 Feb.	Money, J. W. B. Esq.	Calcutta
1865 July	†Morland, Major J.	Murce
1854 Dec.	*Morris, G. G. Esq., B. C. S.	Europe
1864 June	†Moula Bukhsh, Khan Bahadur, Maulvi.	Patna
1837 July 5.	*Muir, J. Esq.	Europe
1854 Oct. 11.	Muir, Hon'ble W. B. C. S.	Calcutta
1859 Aug. 3.	†Murray, Lieut. W. G., 68th N. I.	Mussoorie
1862 July 2.	*Napier, Hon'ble Major-Genl Sir R., K. C. B.	Europe
1860 Nov.	*Newmarch, Major C. D.	Europe
1865 Feb.	†Newul Khishwar, Moonshee.	Lucknow
1852 Sept.	*Nicholls, Capt. W. T., 24th Regi- ment, M. N. I.	Europe
1863 Sept. 2.	†Norman, Capt. F. B.	Benares
1863 Jan. 15.	Norman, Hon'ble J. P.	Calcutta
1859 Aug. 3.	Obbard, J. Esq.	Calcutta
1860 June 4.	†Oldham, C. Esq., Geological Survey.	Madras
1851 June 4.	Oldham, T. Esq., LL. D., F. R. S.	Calcutta
1864 Dec. 7.	Onslow, D. B., Esq.	Barrackpore
1837 June 7.	*O'Shaughnessy, Sir W. B.	Europe
1847 Feb. 10.	*Ousely, Major W. R.	Europe
1864 Mar. 2.	Palmer, Dr W. J.	Calcutta
1862 May 7.	Partridge, S. B. Esq., M. D.	Calg
1860 Feb. 1.	†Pearse, Major G. G.	Mad
1864 Mar. 2.	†Pellew, F. H. Esq., C. S.	Burrisal
1865 Sept. 6.	†Peppe, J. H. Esq.	Gya
1835 July 1.	†Phayre, Lt.-Col. A. P., C. B.	Rangoon
1864 Nov. 2.	Phear, Hon'ble J. B.	Calcutta
1862 Oct. 8.	†Poolin Behary Sen, Bábu.	Berhampore
1849 Sept. 5.	PratapchandraSinha, Rajah, Bahadur	Calcutta
1839 Mar. 6.	Pratt, Ven'ble Archdeacon J. H., M.A.	Calcutta
1860 Jan. 4.	Preonath Sett, Bábu.	Calcutta
1825 Mar. 9.	*Prinsep, C. R. Esq.	Europe
1837 Feb. 1.	Prosonno Coomar Tagore, Bábu.	Calcutta
1864 Feb. 3.	†Pullan, Lieut. A., G. T. Survey.	Mussoorie

## Date of Election

1862 April		Raban, Major H.	Calcutta
1853 April		Radha Nath Sikdar, Bábu.	Calcutta
1849 Sept.		Rajendra Dutt, Bábu.	Calcutta
1856 Mar.		Rajendralála Mitra, Bábu.	Calcutta
1864 May		Ramánath Bose, Bábu.	Calcutta
1837 Feb.		Ramánath Tagore, Babu.	Calcutta
1865 July		† Ramsden, Lieut. W. C.	Julpygorie
1860 Mar.		* Reid, H. S. Esq.	Europe
1864 Dec.		† Richardson, R. J. Esq., C. S.	Gya
1857 June		Riddell, H. B. Esq., B. C. S.	Calcutta
1857 Aug.		† Roberts, Hon'ble A. A., B. C. S.	Punjab
1863 April		† Robertson, C. Esq., C. S.	Allahabad
1864 Dec.		† Robertson, E. S. Esq.	Azimghur
1863 May		† Robertson, H. D. Esq., C. S.	Saharunpore
1862 Mar.		Robinson, Lieut.-Col. D. G., Bengal Engineers.	Calcutta
1865 Feb.	1.	Robinson, S. H. Esq.	Calcutta
1853 Aug.	3.	* Roer, Dr. E.	Europe
1847 Dec.	1.	* Rogers, Capt. T. E.	Europe
1859 Sept.	7.	* Russell, A. E. Esq., B. C. S.	Europe
1864 Dec.	7.	Sarkies, J. C. Esq.	Calcutta
1865 June	7.	† Sárodráprosád Mookerjee, Bábu.	Baraset
1859 Feb.	2.	Satischunder Roy Mahárajah.	Krishnagar
1856 Aug.	6.	Satyasharana Ghosal, Rájah.	Bhookylas, Calcutta
1861 Dec.	4.	† Saunders, C. B. Esq., B. C. S.	Mysore
1864 June	1.	* Saunders, J. O'B. Esq.	Europe
1854 Dec.	6.	† Saxton, Lt.-Col. G. H., F. G. S., 38th M. N. I.	Vizagapatam
1854 May	2.	Schiller, F. Esq.	Calcutta
1860 Feb.	1.	* Scott, Col. E. W. S.	Europe
1865 Nov.	1.	Scott, J. M. Esq.	Calcutta
1859 Aug.	3.	† Scott, W. H. Esq.	Dehra Dhoon
1863 Sept.	3.	Shama Churn Sirkar, Babu.	Calcutta
1860 July	4.	† Shelverton, G. Esq.	Dehra Dhoon
1845 Jan.	14.	* Sherwill, Lt.-Col. W. S., 66th Regiment B. N. I., F. G. S., F. R. G. S.	Europe
1864 Nov.	2.	Short, Lt.-Col. W. D., R. E.	Calcutta
1863 April	1.	* Showers, Major C. L.	Europe
1864 Feb.	3.	Shumbhoonath Pundit, Hon'ble.	Calcutta
1864 Sept.	7.	† Sladen, Capt. E. B.	Mandalay
1865 July	5.	Smith, D. Boyes, Esq. M. D.	Calcutta
1856 Feb.	6.	* Smith, Col. J. F.	Europe
1854 Sept.	6.	† Spankie, R. Esq., B. C. S.	Jaunpore
1864 Mar.	2.	† Spearman, Lieut. H. R.	Shoaygyen

## Date of Election.

1860 May 2.	†Staunton, Major F. S., Beng. Engs.	Darjiling
1843 Sept. 4.	*Stephen, Major J. G., 8th N. I.	Europe
1863 Jan 15	†Sterndale, R. A. Esq.	Nagpore
1862 Oct.	†Stevens, C. C. Esq.	Buxar
1863 May	†Stevens, W. H. Esq.	Sylhet
1863 Sept.	Stewart, R. D. Esq.	Calcutta
1864 April	†Stewart, J. L. Esq. M. D.	Lahore
1861 Sept.	Stokes, Whitley, Esq.	Calcutta
1863 Nov.	Stoliczka, Dr. F.	Calcutta
1848 June	Strachey, J. Esq., B. C. S.	Calcutta
1843 May	*Strachey, Lt.-Col. R., F. R. S., F. L. S., F. G. S.	Europe
1859 Mar. 2.	*Stubbs, Capt. F. W., Beng. Artillery.	Europe
1861 Oct. 2.	†Sudderuddin, Moonshi.	Pundooah
1858 July 7.	†Sutherland, H. C. Esq., B. C. S.	Backergunje
1864 Aug. 11.	Swinhoe, W. Esq.	Calcutta
1865 Sept. 6.	Tawney, C. H. Esq.	Calcutta
1865 April 5.	†Taylor, R. Esq.	Madras
1860 May 2.	*Temple, R. Esq., B. C. S.	Europe
1859 Mar. 2.	†Theobald, W. Esq., Jr., Geological Survey.	Thayet Myo
1860 June 6.	Thompson, J. G. Esq.	Calcutta
1863 Mar. 4.	†Thompson, Major G. H., Bengal Staff Corps.	Hazarcebaug
1855 June 6.	*Thompson, Dr. T., M. D., F. R. S., F. L. S., F. R. G. S.	Europe
1853 Nov. 21.	†Thornhill, C. B. Esq., B. C. S.	Allahabad
1863 June 4.	†Thornton, T. H. Esq.	Murree
1847 June 2.	*Thuillier, Lt.-Col. H. L., F. R. G. S., Bengal Artillery.	Europe
1863 May	Thuillier, Lt. H. R.	Calcutta
1862 July	*Thurlow, Hon'ble T. J. H.	Europe
1865 July	†Tolbort, T. W. H. Esq., C. S.	Mooltan
1865 July	Tonnerre, Dr. C. F.	Calcutta
1862 Feb.	†Torrens, Col. H. D.	Simla
1861 June	†Tremlett, J. D. Esq., C. S.	Lahore
1863 Mar.	*Trevelyan, Right Hon'ble Sir C., K. C. B.	Europe
1841 Feb.	Trevor, Hon'ble C. B., B. C. S.	Calcutta
1863 Feb.	*Trevor, E. T. Esq., B. C. S.	Europe
1864 Mar.	*Trevor, Lt. E. A. Royal Eng.	Europe
1864 July	*Trotter, Lieut. H. Bengal Eng.	Meerut
1864 Sept.	Tween, A. Esq., Geological Survey.	Calcutta
1863 May	†Tyler, Dr. J.	Etah



## Date of Election.

1860 May	2.	*Vanrenen, Capt. A. D., late 71st B. N. I.	Europe
1864 Feb.	3.	†Verchere, A. M., Esq., M. D.	Kohat
1864 April	6.	†Vijayarāma Gajapati Raj Munnia Sultan Bahadur, Maharajah Mirza.	Vezeanagram
1865 Nov.	1.	Waldie, D. Esq.	Calcutta
1861 May	1.	†Walker, Lt.-Col J. T., Bom. Engrs.	Dehra Dhoon
1863 Dec.	2.	†Walker, A. G. Esq.	Shahapur, Panjab
1863 May	6.	*Wall, P. W. Esq., C. S.	Europe
1863 Oct.	7.	Waller, Dr. W. K.	Calcutta
1863 Dec.	2.	Walters, Rev. M. D. C.	Calcutta
1862 Jan.	15.	†Ward, G. E. Esq.	Dehra Dhoon
1852 July	7.	*Ward, J. J. Esq., B. C. S.	Europe
1859 July	6.	*Warrand, R. H. M. Esq., B. C. S.	Europe
1865 May	3.	†Waterhouse, Lieut. J., Royal Artillery.	Delhi
1854 July	5.	*Watson, J. Esq., B. C. S.	Europe
1847 Nov.	3.	*Vaugh, Major-General Sir A. S., C. B., F. R. S., F. R. G. S.	Europe
1862 Oct.	8.	Wheeler, J. T. Esq.	Calcutta
1864 July	6.	†Whithaw, J. C. Esq., Civil Surgeon.	Fyzabad
1864 Mar.	2.	Wilkinson, C. J. Esq.	Calcutta
1861 Sept.	4.	*Williams, Dr. C., H. M.'s 68th Regt.	Europe
1859 Sept.	7.	†Wilson, W. L. Esq.	Beerbhoom
1859 Aug.	3.	†Wilmot, C. W. Esq.	Deoghur
1865 Feb.	1.	†Wilmot, E. Esq.	Delhi
1861 May	7.	Woodrow, H. Esq., M. A.	Calcutta
1859 Mar.	2.	*Wortley, Major A. H. P.	Europe
1862 Aug.	6.	*Wylie, J. W. Esq., Bombay C. S.	Europe
1855 April	4.	*Young, Lt.-Col. C. B.	Europe
1856 July	2.	*Yule, Lt.-Col. H.	Europe

## LIST OF HONORARY MEMBERS.

Date of Election.			
1825 Mar.	9.	M. Garcin de Tassy, Membre del' Inst.	Paris
1826 "	1.	Sir John Phillippart.	London
1829 July	1.	Count De Noc.	Paris
1831 Sept.	7.	Prof. Francis Bopp, Memb. de l' Académie.	Berlin
1831 "	7.	Prof. C. Lassen.	Bonn
1834 Nov.	5.	Sir J. F. W. Herschel, F. R. S.	London
1834 "	5.	Col. W. H. Sykes, F. R. S.	London
1835 May	6.	Prof. Lea.	Philadelphia
1840 Mar.	4.	M. Reinaud, Memb. de l' Institut, Prof. de l' Arabe.	Paris
1842 Feb.	4.	Dr. Ewald.	Göttingen
1842 "	4.	Right Hon'ble Sir Edward Ryan, Kt.	London
1843 Mar.	30.	Prof. Jules Mohl, Memb. de l' Institut.	Paris
1847 May	5.	His Highness Hekekyan Bey.	Egypt
1847 Sept.	1.	Col. W. Munro.	London
1847 Nov.	3.	His Highness the Nawab Nazim of Bengal.	Moorshedabad
1848 Feb.	2.	Dr. J. D. Hooker, R. N., F. R. S.	London
1848 Mar.	8.	Prof. Henry Princeton.	United States
1853 April	6.	Major-Gen. Sir H. C. Rawlinson, K. C. B., F. R. S., D. C. L.	London
1854 Aug.	2.	Col. Sir Proby T. Cautley, K. C. B., F. R. S.	London
1855 Mar.	7.	Rájá Rádhákánta Deva, Báhádur.	Brindabun
1858 July	6.	B. H. Hodgson, Esquire.	Europe
1859 Mar.	2.	Hon'ble Sir J. W. Colville, Kt.	Europe
1860 "	7.	Prof. Max Müller.	Oxford
1860 Nov.	7.	Mons. Stanislas Julien.	Paris
1860 "	7.	Col. Sir George Everest, Kt., F. R. S.	London
1860 "	7.	Dr. Robert Wight.	London
1860 "	7.	Edward Thomas, Esquire.	London
1860 "	7.	Dr. Aloys Sprenger.	Germany
1860 "	7.	Dr. Albrecht Weber.	Berlin
1865 Sept.	6.	Edward Blyth, Esquire.	Europe

## LIST OF CORRESPONDING MEMBERS.

1844 Oct.	2.	MacGowan, Dr. J.	Europe
1856 June	4.	Kremer, Mons. A. Von.	Alexandria
1856 "	4.	Porter, Rev. J.	Damascus
1856 "	4.	von Schlagintweit, Herr H.	Berlin
1856 "	4.	Smith, Dr. E.	Beyrout
1856 "	4.	Tailor, J., Esquire.	Bussorah

## Date of Election.

1856 June	4.	Wilson, Dr.	Bombay
1857 Mar.	4.	Neitner, J., Esquire.	Ceylon
1858 „	3.	von Schlagintweit, Herr H. R.	Berlin
1859 Nov.	2.	Frederick, Dr. H.	Batavia
1859 May	4.	Bleeker, Dr. H.	Batavia
1860 Feb.	1.	Baker, Rev. H.	E. Malabar
1860 „	1.	Swinhoe, R., Esq., H. M.'s Consulate.	Amoy
1860 April	4.	Haug, Dr. M.	Poonah
1861 July	3.	Gosche, Dr. R.	Berlin
1862 Mar.	5.	Murray, A., Esquire.	London
1863 Jan.	15.	Goldstücker, Dr. T.	London
1863 July	4.	Barnes, R. H. Esquire.	Ceylon

## LIST OF ASSOCIATE MEMBERS.

1835 Oct.	7.	Stephenson, J., Esquire.	Europe
1838 Feb.	7.	Keramut Ali, Saiëd.	Hooghly
1843 Dec.	6.	Long, Rev. J.	Calcutta
1865 May	3.	Dall, Rev. C. H. A.	Calcutta

ELECTIONS IN 1865.  
HONORARY MEMBER.

Edward Blyth, Esq.

Europe

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ASSOCIATE MEMBER.

Rev. C. H. A. Dall.

Calcutta

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ORDINARY MEMBERS.

Dr. John Anderson.	Calcutta
Lieut. J. H. Urquhart, R. E.	Bhootan
P. H. Egerton, Esq., B. C. S.	Umritsar
Moonshee Newal Kishur.	Lucknow
S. H. Robinson, Esq.	Calcutta
E. Wilmot, Esq.	Delhi
Major G. B. Malleson.	Calcutta
R. Taylor, Esq.	Allahabad
Dr. J. M. Fleming, 29th P. N. I.	Barrackpore
C. W. V. Bradford, Esq.	Hooghly
C. Davies, Esq.	Rotasghur
Lieut. J. Waterhouse, R. A.	Delhi
J. Agabeg, Esq.	Calcutta
A. H. Giles, Esq.	Dinajpur
Rajáh Joykissen Dáss, Bahádur.	Allyghur
Lieut. T. H. Lewin.	Chittagong.
Babn Sárodáprosuno Mookerjee.	Baraset
Dr. J. Fawcus.	Calcutta
Major J. Morland.	Muree
Lieut. W. C. Ramsden.	Julpigoree
D. Boyes Smith, Esq., M. D.	Calcutta
T. W. H. Tolbort, Esq., C. S.	Mooltan
Dr. C. F. Tonnerre.	Calcutta
S. Fenn, Esq.	Calcutta
J. H. Peppe, Esq.	Gya
C. H. Tawney, Esq.	Calcutta
P. Carnegie, Esq.	Oudhe
Lieut. C. Macgregor.	Buxa
J. M. Scott, Esq.	Calcutta
V. Ball, Esq.	Calcutta
S. Jennings, Esq.	Calcutta
D. Waldie, Esq.	Calcutta

## LOSS OF MEMBERS DURING THE YEAR, 1865.

*By retirement.*

## ORDINARY MEMBERS.

Dr. C. R. Francis.	Calcutta
Lieut.-Col. S. R. Tickell.	Moulmein
H. D. Sandeman, Esq.	Calcutta
C. S. Hogg, Esq.	Calcutta
Capt. E. Smyth.	Almorah
Babu Taruck Chunder Sircar.	Calcutta
C. H. Barnes, Esq.	Bhagulpore
R. E. Goolden, Esq.	Calcutta
Dr. B. Simpson	Darjeeling
J. W. McCrindle, Esq.	Calcutta
Capt. D. Macdonald.	Barrackpore
Dr. F. N. Macnamara.	Calcutta
Capt. T. G. Montgomerie.	Dehra Dhoon
Rajah Bunsput Sinha.	Allahabad
A. B. Sampson, Esq.	Calcutta
Babu Govin Chunder Sen.	Calcutta
C. Boulnois, Esq.	Calcutta
Lieut.-Col. F. D. Atkinson.	Calcutta
W. P. Duff, Esq.	Calcutta
Babu Joygopal Bysack.	Calcutta
E. G. Porter, Esq., C. S.	Bancoorah
Capt. H. Hyde.	Calcutta
Col. H. W. Norman, C. B.	Calcutta
Babu Juggodanund Mookerjee.	Calcutta
Rev. W. G. Cowie.	Calcutta

*By Death.*

## HONORARY MEMBER.

Dr. H. Falconer.

Europe

## ORDINARY MEMBERS.

Lieut. J. H. Urquhart, R. E.	Bhootan
Hon'ble E. P. Levinge.	Calcutta
Lieut.-Col. P. Stewart, R. E.	Europe
Babu Modhoosoodun Dass.	Dacca
Brig.-General St. G. D. Shower.	Calcutta
E. O. Riley, Esq.	Bassein
R. T. Martin, Esq.	Calcutta
W. Murray, Esq., B. C. S.	Gowhatty
W. F. Goss, Esq.	Sumbulpore
Chunder Siker Roy, Rajah.	Julpigori
Moulavi Waheedoon Nubee Khan Bahadur.	Calcutta

PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR FEBRUARY, 1866.



The monthly general meeting of the Asiatic Society of Bengal was held on the 7th instant.

E. C. Bayley, Esq., President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From the Rev. J. Long, 2 copies of "Five hundred questions on the social condition of the Natives of India."

2. From J. F. Browne, Esq., a copy of "A General Report on the Tipperah District."

3. From J. Avdall, Esq., a copy of "Notice sur le Couvent Arménien de l'île S. Lazare de Venise by V. Langlois."

4. From Dr. J. Anderson, a young specimen of *Gavialis Gangeticus*. A specimen of *Crocodylus Porosus*. Two specimens of *Halcyon Smyrnensis* (white-breasted king-fisher). A specimen of *Athene Brama* (spotted owl). Two specimens of *Pteropus Edwardii* (flying fox): One of *Caprimulgus Asiaticus* (Common Indian Goat-Sucker): one of *Budytes Viridis* (Wagtail): Two of *Anthus Rufalus* (Slender Lark): Three of *Gyps Bengalensis* (Vulture), and one of *Dicrurus Macrocerus* (King Crow).

5. From Col. Phayre, three Burmese skulls and one from the Shan States.

6. From the Under-Secretary to the Govt. of Bengal, a box containing a specimen of sand poured forth near Thannah Roajan in Chittagong, on the occasion of the late earthquake.

The following letters accompany the donation :—

No. 309.

*From J. GEOGHEGAN, Esq.,*

*Under-Secretary to the Government of Bengal.*

*To THE SECRETARY*

*to the Asiatic Society of Bengal.*

*Fort William, the 16th, January 1866.*

SIR,—I am directed by the Lieutenant-Governor to forward, for the information of the Council of the Asiatic Society, the accompanying copy of communications received from the Commissioner of Chittagong, Nos. 483 and 501, dated, respectively, the 27th ultimo and 3rd instant, and of the enclosed report from the Magistrate of Chittagong on the series of earthquakes which occurred in that district during December last. A sample of the sand referred to in the memorandum of Mr. Wilson, the Officiating Joint-Magistrate, is also forwarded herewith.

I have &c.

(Sd.) J. GEOGHEGAN,

*Under-Secretary to the Govt. of Bengal.*

*From W. GORDON YOUNG, Esq., Commissioner of the Chittagong Division,—(No. 483, dated the 27th December, 1865.)*

Forwarded for the information of the Government of Bengal. The undersigned hopes to be able shortly to report further particulars that may be of interest.

*From A. SMITH, Esq., Magistrate and Collector of Chittagong, to the Commissioner of the Chittagong Division,—(No. 1392, dated the 18th December, 1865.)*

Sir,—I have the honor to report to you the occurrence of a series of earthquakes commencing on the evening of the 15th instant.

2. One shock on that and another on the following evening were severe, and most masonry buildings have suffered damage.

3 About as many as twelve or fourteen distinct shocks have been counted, the last of which was about 12 o'clock to-day.

*From W. GORDON YOUNG, Esq., Commissioner of the Chittagong Division,—(No. 501, dated the 3rd January, 1866.)*

Forwarded for the information of the Lieutenant-Governor of Bengal in continuation of this office Memo. No. 483, dated the 27th ultimo ;

with a sample of the sand referred to in the memorandum of Mr. Wilson, the Officiating Joint-Magistrate.

*From A. SMITH, Esq, Magistrate and Collector of Chittagong, to the Commissioner of the Chittagong Division,—(No. 1443, dated the 29th December, 1865)*

Sir,—In my No. 1392 of 18th instant, I had the honor to report to you the occurrence of a series of earthquakes commencing on the evening of Friday, the 15th, and extending to the morning of Wednesday, the 20th instant.

2. The following are, as nearly as possible, the times of occurrence of the most marked shocks, but I fear they must be taken only as approximate, and are not sufficiently accurate to be of any use for scientific purposes:—

1st	Friday, December 15th,	6 50	P. M.
2nd	„ „ „	7-10	„
3rd	„ „ „	10-30	„
4th	Saturday, „ 16th,	2-0	A. M.
5th	„ „ „	4-0	„
6th	„ „ „	6-15	P. M.
7th	„ „ „	8-40	„
8th	Monday, „ 18th,	12-0	Noon.
9th	Tuesday, „ 19th,	2-0	P. M.
10th	„ „ „	10-0	„
11th	Wednesday „ 20th,	2-0	A. M.

3. Of these shocks the first was very violent and caused considerable injuries to several of the masonry buildings in the station. The sixth also was severe; none of the others were so.

4. During the time from Friday evening to Sunday morning, there was observed a faint tremulous motion of the earth, and many people counted more shocks than I have enumerated during that period, but those I have given were the most marked and the best authenticated. The doubtful ones have been excluded.

5. In Thannah Roajan the earth's surface cracked in several places, and poured forth jets of water and a fine dark coloured sand, in appearance very much resembling the common medicinal preparation called grey powder. I enclose you a specimen of the sand, which differs in



appearance from the ordinary sand of the district, and which it would, perhaps, be worth while to submit to the Chemical Examiner of the Government for analysis.

6. From a memorandum by Mr. Wilson, the Joint-Magistrate, who visited the place of ejectment, and to whom I am indebted for the specimen, it appears that no sand has ever been found there in the deepest excavations, so that it must have been forced up from a great depth.

7. Similar jets and fissures appear to have also occurred near Mr. Miller's tea garden on the Sungoo.

8. It may also be worth mentioning that my camp being at the time in its vicinity, I visited on Saturday, the 16th instant, the burning well at Koomaree Koond. This is one of five such wells on the Seetaceond range which are ordinarily supposed to be connected with internal volcanic agency. At the time of my visit it was burning, an igneous gas rising from the surface of the water and igniting in contact with the atmosphere, but it gave no emissions of more than the ordinary strength; nor, so far as can be ascertained, did any of the others, during these recent indications of internal volcanic action.

"I yesterday visited Mouzah Guzara, in Thannah Roajan, for the purpose of examining the effects which were reported to have been produced there by the late earthquake.

"I found that in several places sand and water had burst out of cracks in the clay soil. None of these jets or springs were at work when I went to the place, but each had left a heap of fine dark coloured sand. These heaps are of various sizes. The smallest is as large as a mole hill, and the largest which I saw perfect was about 12 feet in diameter and about 3 feet in the centre. This sand heap (on the land of Syud Sultan) was still wet at 3 o'clock yesterday, and the ground around it on all sides shewed signs of having been recently flooded. It appears that this jet of sand and water, which no doubt began to play at the time when the first violent shock of the earthquake was felt, (6-50 P. M., 15th December, 1865) went on working till ten or half past ten the next morning. The water rose (I was told) some inches from the ground, and (as far as I could learn) it was cold.

“About a mile from this place, on the land of Durjotee Roy, the ground cracked to the length of 38 feet. The direction is from N. N. E. to S. S. W. The ground on the E. of this crack sank to the depth of about a foot, and a great heap of sand, some 3 or 3½ feet high and 10 or 12 feet across, rose from the centre. I measured the length of the crack and the depth of the sinking of the ground, but most of the sand had been cleared away before my visit, by the neighbouring villagers, for use as a charm. The crack must have been about 6 inches wide in the middle. All the sand thrown up must have come from a considerable depth, as nothing but clay has ever been found in the deepest excavation in the neighbourhood or within many miles. I believe no sandy soil is to be found in any part of the trough shaped country lying between the Nizampore range and the eastern hills.”

(Sd.) R. H. WILSON.

*The 20th December, 1865.*

No. 572.

*From S. C. BAYLEY, Esq.,*

*Junior Secretary to the Government of Bengal.*

*To THE SECRETARY*

*to the Asiatic Society of Bengal.*

*Fort William the 30th January, 1866.*

Sir,—In continuation of the letter from this Office, No. 309, dated the 16th instant, I am directed by the Lieutenant-Governor to forward, for the information of the Council of the Asiatic Society, the accompanying copy of a communication from the Commissioner of Chittagong, No. 517, dated the 6th idem, and of its enclosed detailed report from the Executive Engineer, on the series of earthquakes which occurred in that District during December last. Copy of a further communication\* from the Commissioner, with its annexure, reporting the occurrence of another earthquake at 4-20 A. M. of the 6th January, is also herewith forwarded.

I have &c.,

(Sd.) S. C. BAYLEY,

*Junior Secretary to the Govt. of Bengal.*

\* \* No. 522, dated the 8th instant.

*Memorandum from W. GORDON YOUNG, Esq., Commissioner of the Chittagong Division,—(No. 517, dated the 6th January, 1866.)*

Submitted to the Government of Bengal in continuation of this office No. 501, dated 3rd instant.

*Extract paragraphs 1 to 9, from a letter from the Executive Engineer, to the Superintending Engineer, South-Eastern Circle, No. 1538, without date.*

Para. 1.—In continuation of the telegram which I sent you late in the evening of the 16th instant, informing you of five shocks of earthquake having been felt at this station on the night of the 15th between half-past 7 and half-past 10 o'clock P. M., I have now the honor to furnish the following details respecting it for your information.

2. There is a good deal of difference of opinion as to whether the shocks came from the west or the east, and as to the kind of noise which accompanied them ; some state one thing and some another, differing as to many particulars, and which, no doubt, arises from the nervousness of the parties narrating ; but all agree that they were severe, and that the first shock was the severest of the five.

3. I can only state what I felt and heard myself. The first shock was very severe, and lasted for about two minutes and a half ; it came from the north-west, and was preceded by a noise, like to that which a great wind would make at a distance.

4. It made a similar noise to that which one sometimes hears from a coming nor'wester, and this continued throughout the time of the first shock. There was, however, no wind blowing at the time, nor anything to speak of during the night.

5. The last four shocks were comparatively slight, and lasted not more than five seconds each, and they were accompanied by no noises of any kind.

6. Several slight shocks of earthquake have been felt every night of [since?] the 15th instant, and some during each day, but they are nothing worth mentioning, and cannot do any harm.

7. All the pucca buildings in the station have been more or less shaken and cracked and injured : more especially so, those buildings which lie east and west.

8. The following are the public buildings which have been injured

and cracked severely, and to which considerable repairs will have to be done:—The Episcopal Church; the old Salt Office, a two-storied building now occupied by the Police; the Magistrate's Cutcherry; the Judge's Cutcherry, and the Circuit House.

9. The public buildings that have been slightly injured are—the Commissioner's Cutcherry, Custom House, Jail buildings, School, and Military Hospital.

*Memorandum from R. PEREIRA, Esq., Assistant to the Commissioner of the Chittagong Division,—(No. 522, dated the 8th January 1866.)*

In the temporary absence of the Commissioner from head-quarters, the undersigned begs to submit, for the information of the Hon'ble the Lieutenant-Governor of Bengal, copy of the following report from the Collector and Magistrate of Chittagong in continuation of this office [Memo.] No. 517, dated the 6th instant.

*From A. SMITH, Esq., Magistrate and Collector of Chittagong, to the Commissioner of the Chittagong Division,—(No. 1472, dated the 6th January, 1866.)*

SIR,—In continuation of my No. 1443 of 29th December, 1865, I have the honor to report the occurrence of another slight earthquake at 4-20 A. M. this morning."

Mr. Blanford stated that he had examined the sand under the microscope, and that it appeared to be ordinary river sand. There was nothing of a volcanic character in it, nor did it appear that a chemical analysis would throw any important light on its origin. It had, no doubt, been washed up from the lower part of the alluvial formation.

7. From Babu Rajendra Mullick, specimens of a *Paephagus Grunniens* (yâk).

A *Nasua Rufa* (Coaiti Mondî).

A *Cerionis Satyra* (Tragopan).

A *Anser Indicus* (bare-headed goose).

A *Psittacus Erythacus* (Grey African Parrot).

8. From A. Grote, Esq., a skeleton of an Alderney Bull.

9. From Major B. Macbean, a specimen of an Up-country Bull.

E. C. Bayley, Esq. exhibited, on the part of Dr. Fayer, two Knives used in human sacrifices in Central India.

The Council submitted a recommendation that Emil Von Schlagint-

weit, Esq. and the Rev. M. A. Sherring, be elected corresponding members of the Society.

The Council reported that they had nominated the following gentlemen to serve in the several Committees in the ensuing year.

### LIST FOR 1866.

#### *Finance.*

Lient.-Col. J. E. Gastrell.

J. Geoghegan, Esq.

#### *Philology.*

Major W. N. Lees.

A. Grote, Esq.

Báboo Jádava Krishna Sing.

H. Blochmann, Esq.

J. Geoghegan, Esq.

Moulvie Abdul Luteef Khan Bahadur.

#### *Library.*

Major W. N. Lees.

Dr. T. Anderson.

T. Oldham, Esq.

Dr. D. Boyes Smith.

W. S. Atkinson, Esq.

Dr. F. Stoliczka.

#### *Natural History Committee.*

Dr. T. Anderson.

Dr. J. Fayrer.

Dr. T. C. Jerdon.

Dr. S. B. Partridge.

Dr. D. Boyes Smith.

W. S. Atkinson, Esq.

W. Theobald, Esq., Jr.

A. Grote, Esq.

Baboo Debendra Mullick.

Dr. F. Stoliczka.

T. Oldham, Esq.

*Meteorological and Physical Science.*

T. Oldham, Esq.  
 J. Obbard, Esq.  
 J. Strachey, Esq.  
 Lieut.-Col. J. E. Gastrell.  
 Capt. J. P. Basevi.  
 Dr. S. B. Partridge.  
 Dr. T. Thomson.  
 Lieut.-Col. J. E. T. Walker.

*Coin Committee.*

A Grote, Esq.  
 Major W. N. Lees.  
 Capt. F. W. Stubbs.

*Committee of Papers.*

All the members of the Council.

*Statistical Committee.*

Hon'ble G. Campbell.  
 J. Strachey, Esq.  
 Dr. J. Ewart.  
 C. B. Garrett, Esq.  
 Lieut.-Col. J. E. T. Walker.

The President and the Secretaries are ex-officio members of all the Committees.

Letters from the Hon'ble A. Eden, H. Duhan, Esq., and Babu Cássi Náth Chowdhori, intimating their desire to withdraw from the Society, were recorded.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members,

N. Daly, Esq.  
 G. W. Hoyle, Esq.  
 J. H. Johnson, Esq.

The Rev. J. Cave Brown was re-elected.

The following gentlemen were named for ballot as ordinary members.

W. Irvine, Esq., B. C. S., Mozuffernugger, proposed by Mr. H. F. Blanford, seconded by Mr. E. C. Bayley.

Bábu Kádár Náth Mookerjee, proposed by Major G. B. Malleson, seconded by Mr. H. F. Blanford.

Dr. J. F. Wise, Chittagong, proposed by Dr. D. B. Smith, seconded by Dr. J. Anderson.

A. P. Macdonell, Esq., proposed by Mr. W. L. Heeley, seconded by Mr. H. H. Locke.

The Hon'ble G. Campbell gave notice that at the next meeting he would move that the Punjab Government be requested to take measures for obtaining an accurate knowledge of Arián languages (other than Hindee) spoken in the territories of His Highness the Maharajah of Cashmere. He addressed the meeting as follows:—

“On a former occasion I ventured to bring to the notice of the Society an Ethnological subject, and I have been encouraged by finding that I have been the humble instrument of bringing into the field several most learned and scientific men, who are interested in the prosecution of the object to which the motion was directed, which the Society and the Council were good enough to adopt. In fact, it is now evident, that as this country, in a far greater degree than any other in the world, offers an unlimited field for ethnological observation and inquiry, and presents an infinity of varieties of almost every one of the great divisions of the human race, so also there is no lack of able and qualified men to reap this abundant harvest. I have been delighted to know that on the proposition of my friend, Dr. Fayrer, an effort is likely to be made to obtain that which I have long desired to see, a collection of living humans more interesting and more varied than any bullocks. Meantime I seek permission to call attention to another local subject of inquiry. My former motion was more especially directed to the relics of an ancient Non-Caucasian and probably pre-Caucasian race, existing in our immediate vicinity as well as throughout Central India, and I suggested that inquiry should be directed not only to language, but also to physical form and other particulars. I now wish to go to the other extreme of the human scale; to remind the Society, that as we have among us the very lowest varieties of the race, so we also have within the field of our inquiry in India the very highest varieties, the most pure and perfect Caucasian races still existing in the Indian portion of the Caucasian range; and to call attention to the fact that, while the physique of these races has attracted much

notice, their languages have been, singular to relate, almost wholly neglected ; so that, we are in truth nearly ignorant of them. It is impossible to conceive any more probable key to many of the great problems involved in the growth and spread of the Arian races, than in the languages of the most pure of those races, secluded in their own mountains for hundreds and thousands of years. One at least of these tongues is not that of rude mountaineers, but the most ancient and most highly cultivated written language of one of the most ancient, most learned, most ingenious, and most imaginative people on the face of the globe,—a people, in fact, who in intellect, as in beauty are unrivalled in Asia, perhaps in the world. Yet, strange to say, of this Cashmeeree language we actually know less than the little we know of the tongues of Coles and Sontals and Sub-Himalayan savages. In the pages of Max Müller and Latham and Pritchard, these latter tribes and tongues find a place, but of the Cashmeeree language, not enough has yet been ascertained even to classify it in the roughest way—neither its class, its character, nor its affinities are to be found in those handbooks. The only very slight information published on the subject is contained in two papers in the Journal of this Society, and they are both taken from information supplied by Mahomedans of Loodianah, who, both by religion and consequent Persian education, and by very long expatriation, must have been very unsafe guides. My friend, Bábú Rajendra Lal Mitra, has promised me a note on the essence of the information to be derived from these papers, but at least it is so meagre that, as I have said, it has never been used to classify the language.

“I have lately been in Cashmere, and made many inquiries on the subject, but neither my time nor my philological qualifications were sufficient to do anything substantial. One thing is clear, viz. that the Cashmeeree is *entirely* different from Hindec. It is in no respect a mere dialect of Hindec, like the Punjabee and other immediately cognate tongues, but a totally distinct language. Though clearly in the main a Sanscritic tongue, it seemed to me more different from Hindec than either Bengalee or Maharattee, or any other language of the Northern family. Unfortunately long predominance of Mahomedan rule, and the conversion, many hundred years since, of most of the population, has caused the supercession of the indigenous literature by Per-



sian, and the use of the Persian character for modern Cashmeeree writing. But the old characters are still in use among the Shawl-weavers, and the country, as is well known, still swarms with most learned pundits, to whom Sanscrit is as familiar as Latin to the pundits of Europe, and who are able and willing to restore to its proper character and to grammatical shape their native tongue, the more so as the country is now again under Hindoo rule. North-west of Cashmere again there is another, quite different and widely spread language, also clearly Arian. This is the language of Chilas, the Kylas, Olympus, or Heaven of the Hindoos. It is spoken by the independent mountaineers on the Hazareh Frontier, thence throughout Chilas, which is the westerly hill territory of the Maharajah of Cashmere, and in *Ghilghit*, the recent Central-Asian acquisition of the Maharajah. Some of the people in my road called it 'Dardu Gal' or the language of the Dards, and I have since noticed that Vigne alludes to it and gives it much the same limits which I have mentioned, under the name of the 'Dangree' language. There are dialects, but all the people within these limits understand one another. I got together several people from those parts, and put them through the primary words and phrases by which the affinity of a language may usually be tested. Although the Chilas tongue is a different language from the Punjabee, and the Punjabees cannot understand it, it seemed to me to be a good deal nearer to Hindee or Punjabee than the Cashmeeree. And the same remark seems to apply to all that has appeared of the languages of Chitral and Kafferistan, which are probably, I should think, nearly related to that of Chilas. Those which I have mentioned are the only unknown Arian languages. The Punjabee runs up through the hills to the frontier of Cashmere in one direction, and to that of Afghanistan in another. Even my small knowledge enabled me to ascertain that the language of the Maharajah's most northerly subjects or tributaries beyond Ghilghit is palpably Turkish, and to the East, the pretended descendants of Alexander, the Baltis of Iskardo, speak the Thibetan language which their features would lead us to expect. Chitral and Kafferistan form but a narrow strip projected along the ridge of the Caucasus, and enclosed between the Pushtoo speaking Affghans on one side, and the Persian speaking Badakshaniees on the other. My present object is not directed to the Chitral and Kaffir

dialects; we have no means of acquiring an accurate knowledge of these tongues, and the nearest accessible territory is the British district of Peshawur, where both Officials and Missionaries are settled, and have devoted their best endeavours to obtain information regarding the neighbouring people and languages. I direct my remarks to the two Arian languages, those of Cashmere and Chilas, which as yet remain unknown, owing to peculiar circumstances, although the means of knowing them is easily available. They are both spoken in the territories of the Maharajah of Cashmere, whose hospitality to British travellers is great, and who gives every facility to the many who traverse the length and breadth of his dominions. But none of the country being British, and the snow closing the roads for a great part of the year, there is not, and never has been, a single British permanent resident either Official, Missionary, or any other, and not a single European has any knowledge of the indigenous languages. They are all mere summer tourists, to whom the Hindostanee and Punjabee of the Jummoo officials is amply sufficient. The native pundits, though so learned and intelligent, do not take up philology without some official guidance. Hence our ignorance in the midst of abundant means of knowledge. Usually these things are far better left to private enterprise, but under the special circumstances of this case I wish to suggest the advantage of a little official aid. The Lieutenant-Governor of the Punjab is one of ourselves, a man devoted to science: individually he is of all men the most ready to aid such objects, and I feel confident that he only requires the assurance that the object is considered one of public interest, to give it his official aid also. The Maharájah is, as I have said, most hospitable and most ready to assist British enterprises. The Governor of Cashmere, Dewán Kirpá Rám, is one of the most enlightened and progressive native gentleman of the age. I am confident that he would aid us. At Lahore, an Oriental University has just been started with magnificent aid from the Viceroy, and there are many Cashmeeree pundits well skilled in their own language. They are more numerous and more learned in Cashmere, where men of Chilas also are always to be found. In my small inquiries I was fortunate enough to be aided by the Dewán Kirpá Rám, and also by a most intelligent young native gentleman of high position, Pundit Rám Jen, adopted son and

heir of the late Farmer-General of the Shawl Revenue, who, in addition to an excellent knowledge of his own language and of Sanscrit and Persian, has taught himself something of the English language and Grammar, and is alone quite capable of constructing a Cashmeeree Grammar with a little aid from an English Grammarian. In short, the means of acquiring the desired knowledge lie abundantly ready to hand. Some movement only is required to start the subject. I do not think that I can be wrong in supposing it to be of eminent importance. If anywhere is to be found the connecting link between the Sanscrit and the modern languages of India, it must be in the speech of the pure Brahmin population of Cashmere, for the whole population is of Brahmin race : those not converted to Mahomedanism, are still, without any exception, Brahmins : no other caste is known, and the Persian and Arabic of the Mahomedans is merely overlaid in a separate stratum as it were. If anywhere the question whether the grammatical structure of the present languages is of Sanscrit descent or of indigenous origin is to be decided, it must be by comparing it with the language of the aboriginal Arians of the long inaccessible Chilas, the Olympus to which the Hindoos still point. If anywhere farther links connecting the Arians of the East and the West are to be found, it must be among those same aboriginal Arians, still inhabiting, in an isolated position, the very seat and centre from which the race was produced ; the very kernel from which the great tree sprang ; and the little that we have learnt of the tongue of the unapproachable Kaffir hills, seems to suggest some almost startling affinities to the Latin. Viewing then the matter as at the same time so important and so easy, I have ventured to bring it to notice, and to submit for the consideration of the Council, whether something might not be done, in communication with the Punjab Government, towards putting upon paper the essence and structure of the Cashmeeree and Chilas languages. If I am supported, I would propose to give to the movement the sanction of the Society by the following resolution, of which I now give notice for the next meeting, and which I should be happy to modify in any way that may be deemed more effectual towards the object in view.

*Notice of Motion.*

That the Council be requested to consider the means of obtaining a better knowledge of the languages of Cashmore and Chilas, and to

that end to solicit the aid of the Government of the Punjab and of his Highness the Maharajah of Cashmeree.

The following communications were announced :—

1. From Babu Gopee Nauth Sen, 'Abstract of hourly meteorological observations taken at Calcutta in September, 1865.'

2. From W. T. Blanford, Esq., 'Contributions to Indian Malacology, No. VI.'

3. From Capt. A. B. Melville, 'Notes on a Buddhist temple at Dob Khond in Gwalior,' with facsimiles of the inscriptions.

4. From R. Taylor, Esq., 'Notes on the physical changes at the Koen Pagoda near Madras.'

Mr. Taylor's letter was read as follows,—

"I have just returned from the Koen Pagodas, and advise you to arm any friend who may be intending a like trip, with any account of the place which may have appeared in the Society's Journal (two or three did, I think, some thirty years back), for the Gazetteer is worth little more than Murray.

"But I am not going to write archæology : the most important question about the place is, whether or not there have been great physical changes since the works there were first commenced. A writer in 1831, (I think), maintained that the sea line on this coast is perpetually advancing or receding, and that now at the point in question, the coast is encroaching on the sea. Accurately to determine this, would require minute observations carried on at all seasons for many years together ; I only offer for record my own observation.

"Three points in all such cases require careful note : the time of year, the late weather (in general terms,) and the state of the tide. The N. E. monsoon on this coast has, as its first result, a very marked decrease in the width of the beach, and I believe storms at other times of the year have, to some extent, the same effect. My visit then was paid in Christmas week, during the currency of the N. E. monsoon, after no markedly stormy weather, through the Surf-flag had been flying at Madras for some days in the previous week.—The tide should have risen on the days of my visit to the Pagodas 18in., and is believed to have risen only about 10 inches ; the cyclone destroyed the gauge ; so more cannot be said. The times of my visit to the sea pagoda and the coast were 7 A. M. of 27th Dec., and 4-30 P. M.

of 28th Dec.; the nearest flood times at Madras were about 3 A. M. on the 27th, and 4-30 P. M. on the 28th, so on the second occasion I must have been near the top of tide.

“A single group of rocks will give all the marks I can suggest. About 200 yards south of the pagoda, well within the beach line, is a small group offering many points for identification: this I believe to be the Gazetteer (the writer of 1831,) group ‘half under water at high water, carved in grinning lions and tigers’ heads.’ (I am not sure of his exact words; this is certainly the meaning.) As the conditions of his visit are not noted, this information would be worth little, even if we knew that he had investigated these rocks as minutely as he could, and recorded his observations at once. But I am not to talk of him now. The group of which I speak (and of which I believe him to speak) is one of five rocks, two standing in shore of the other three: the southernmost of the seaward three is the largest. Its sea face is carved into an elephant’s head supporting a shrine, a horse trotting up to the head from the south, some figures approaching from the north; on the back is another shrine hole, and some slight carvings of figures and a lion’s head: the rock behind this is wrought into a sleeping lion. The middle one of the three seaward is a small untouched rock; the northernmost is a crag whose landward face is worked into a shrine hole within a border of grotesque masks: the fifth rock, just behind this, has no sign of human handiwork but its smoothed top. Now on my second visit the waves were just washing round them, as though they stood on the highest point such a tide could reach.

“Between these rocks and the pagoda is a pile of stones strewn on the beach as ready to the builder’s hand, close to a rock, stepped as for the foundations of a small temple; over this rock every wave was dashing on my second visit in a sheet.

“The rise or fall of the coast must be *very* gradual, and probably no marked difference would be observed, at the same season, for the next 20 years: the publication of this note then would be of very little use, as it would certainly be forgotten or inaccessible as the old papers are; but every member should send to the Society such notes as he may be able to make, though the waste basket may better suit the majority than the Journal.

“*Madras, 5th Jany., 1866.*

(SD.) “R. TAYLOR.”

## LIBRARY.

The following are the additions made to the Library since the meeting held in September last.

*Presentations.*

\*.\* *The names of Donors in Capitals.*

Political Mission to Bhootan, comprising the reports of the Hon'ble A. Eden, 1864.—THE GOVERNMENT OF BENGAL.

Ceylon Plants, by R. Thwaites, Esq.—THE AUTHOR.

Die Persischen und Orientalischen Handschriften der herzoglichen Bibliothek zu Gotha, by Dr. W. Bertsch, Vols. I and II.—THE AUTHOR.

On the Identity of Xandrames and Krananda, by E. Thomas, Esq.—THE ROYAL ASIATIC SOCIETY OF GREAT BRITAIN AND IRELAND.

Report of the damage sustained by the Royal Botanical Gardens in the late Cyclone of the 5th October, 1864.—DR. T. ANDERSON.

Notices on the life and writings of C. C. Lassen, by L. E. Bowring.—THE AUTHOR.

A brief Analytical Review of the brilliant Administration of Lord Mornington, afterwards Marquis of Wellesley.—MAJOR R. P. ANDERSON.

König Maximilian II. und die Wissenschaft.—THE ROYAL BAV. ACADEMY OF MUNICH.

Die Stellung Venedigs in der Weltgeschichte.—THE SAME.

Ueber den Begriff der bürgerlichen Gesellschaft.—THE SAME.

Catalogue of the Organic remains of the Echinodermata in the Museum of the Geological Survey of India.—THE GOVERNMENT OF BENGAL.

A treatise on attractions, Laplace's functions and the figure of the earth, by the Venerable J. H. Pratt.—THE AUTHOR.

A short practical grammar of the Thibetan Language, with special reference to the spoken dialects, by Rev. H. A. Jaeschke.—THE AUTHOR.

A letter 'On the utility of the study of the Sanscrit language,' to the Hon'ble J. B. Norton.—THE FIRST PRINCE OF TRAVANDRUM.

Iconologia, or Moral Emblems.—MAJOR J. G. GOWAN.

Address on the Language and Literature of Asia, by S. Feddon.—BÁBU RAMDÁSS SEN.

Smithsonian Contributions to Knowledge, Vol. XIV.—THE SMITHSONIAN INSTITUTION.

Results of the Meteorological Observations of the U. States, Vol. II, Part 1.—THE SAME.

Annual report of the Trustees of the Museum of Comparative Zoology.—THE DIRECTOR OF THE MUSEUM.

An account of the Base Observations made at the Kew Observatory, with the Pendulums to be used in the Indian Trigonometrical Survey, by B. Stewart.—COL. J. E. T. WALKER.

Proceedings of the Zoological Society of London, Illustrations for the years 1861, 1862, 1863 and 1864.—THE SOCIETY.

Cours d'Hindustani, by M. Garcin de Tassy.—THE AUTHOR.

Indische Alterthumskunde, by Ch. Lassen, Vol. I.—THE AUTHOR.

Five hundred questions on the Social condition of the Natives of India, by Rev. J. Long.—THE AUTHOR.

General Report on the Tipperah District, by J. F. Browne.—THE AUTHOR.

Meteorological Observations for the North Western Provinces, by Dr. M. Thomson.—THE AUTHOR.

The Punjab Chiefs, by L. H. Griffin, Esq.—THE AUTHOR.

Indische Studien, by Dr. A. Weber, Vol. IX.—THE AUTHOR.

Annals of Indian Administration, Vol. IX, Parts 1 to 4.—THE BENGAL GOVERNMENT.

Journal of the Statistical Society of London, Vol. XXVIII, Part 3.—THE SOCIETY.

Journal of the Agri-Horticultural Society of India, Vol. XIV, Part I. with a supplementary number.—THE AGRI-HORTICULTURAL SOCIETY.

Jahrbuch der Kaiserlichen Königlich Geologischen Reichsanstalt, Vol. XIV, No. 4.—K. K. G. REICHSANSTALT.

Proceedings of the Royal Society of London, Vol. XIV, Nos. 74 to 78.—THE ROYAL SOCIETY OF LONDON.

Rahasya Sandarbha, Vol. II, Nos. 13 to 15, and 19 to 22.—THE CALCUTTA SCHOOL-BOOK SOCIETY.

Transactions of the Linnean Society of London, Vol. XXV, Parts 1, 2.—THE LINNEAN SOCIETY.

Journal of the Proceedings of the Linnean Society viz.—

Zoology, Vol. VIII, No. 30.

Botany, Vol. VIII, Nos. 31 to 32, Vol. IX. No. 33.—THE SAME.

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften,—  
Mathematisch—Natur—Wissenschaftliche Classe, Band L, Abth. I,

Nos. 1, 2; Abth. II, Nos. 1, 2; Abth. III, Nos. 1, 2; Abth. IV, V, Nos. 1, 2; Band LI, Abth. I, II, Nos. 1, 2.

Philosophisch—Historische Classe, Band XLVII, Abth. 1, 2; Band XLVIII, Abth. 1, 2.—**THE IMPERIAL ACADEMY.**

The Calcutta Christian Observer, Nos. 309 to 313.—**THE EDITOR.**

Philosophical Transactions of the Royal Society of London, Vol. CLIV, Part 3, and Vol. CLV, Part 1, with a list of its Fellows.—**THE SOCIETY.**

Proceedings of the Academy of Natural Sciences of Philadelphia, Nos. 1 to 5 of 1864.—**THE PHILADELPHIA ACADEMY.**

\* Memoirs of the Geological Survey of India, (Palæontologia Indica), Vol. III, Parts 7 to 9, Vol. IV, Part 1.—**THE GOVERNMENTS OF INDIA AND BENGAL, AND THE SUPERINTENDENT OF GEOLOGICAL SURVEY OF INDIA.**

Report of the Committee of the Bengal Chamber of Commerce, from 1st May to 31st October, 1865.—**THE BENGAL CHAMBER OF COMMERCE.**

Report (Annual) on the Administration of the Province of Oudh for 1864-65.—**THE GOVERNMENT OF BENGAL.**

Selections from the Records of the Madras Government, No. 85.—**THE MADRAS GOVERNMENT.**

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PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR MARCH, 1866.

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At a meeting of the Society held on the 7th instant,  
W. L. Heeley, Esq., Vice-President, in the chair,  
The Proceedings of the previous meeting were read and confirmed.  
The following presentations were announced—

1. From Moonshee Mahommed Hossein, Superintending Engineer's Office, Shergotty, a brick from the Temple at Buddha Gya : measuring  $15\cdot6 \times 10\cdot5 \times 3\cdot2$  inches.

1. From Baboo Rájendralála Mitra, one *Felis Pardus*, L. One *Oriolus Melanocephalus*, L.

2. From Major Ford, one Gecko, two Lizards and one Snake, in spirit, from the Andamans.

3. From Baboo Rajendro Mullick, two *Bos Grunniens*, L. (Yak) ; and one *Dama vulgaris*, Gesner (Fallow Deer).

4. From H. F. Blanford, Esq., two *Tulora ferruginea*, Europe ; two *Melanopsis Esperi*, Transylvania ; two *Melanopsis thermalis*, Europe ; two *Melanopsis acicularis*, Europe ; six *Nanina ligulata*, Madras ; two *Cyclostoma costulatum*, Europe ; two *Cyclotus corrugatus*, Jamaica ; one *Rhiostoma Housei*, Siam ; one *Philopotamis decussata*, Ceylon ; six *Pomatias maculatum*, Europe ; two *Clypeaster*, Pondicherry.

5. From Dr. J. Anderson, *Macacus radiatus* ; *Oriolus melanocephalus* ; *Pratincola caprata* ; *Accipiter nisus* ; *Euplœcomus nycthemerus* ; *Eos ornata* ; *Lorius dimicella* ; *Sturnus contra* ; *Dicrurus cærulescens* ; *Dicrurus macrocerous* ; *Dicrurus longicaudatus* ; *Budytes viridis* ; *Mulacocercus Bengalensis* ; *Cuculus varius* ; *Fringilla Canaria* ; *Melopsittacus undulatus* ; *Edolius grandis* ; *Eclectus Po-*

*lychloros* ; *Pycnonotus Jocosus* ; *Pycnonotus atricapillus* ; *Calliope Kamtschatkensis*.

The Hon'ble G. Campbell, in accordance with the notice given at the previous meeting, then moved—

‘That the Council be requested to consider the means of obtaining a better knowledge of the languages of Cashmere and Chilas, and to that end to solicit the aid of the Government of the Punjab and of His Highness the Maharajah of Cashmere.’

In introducing the motion, Mr. Campbell made the following remarks :—

I rise to submit the motion of which I have given notice for to-day, viz. that the Council be requested to consider the means of obtaining a more exact knowledge of the languages of Cashmere and Chilas, and to solicit the aid of the Government of the Punjab and of His Highness the Maharajah of Cashmere to that end. Considering the subject to be of some importance, and desiring to place it fully before the Members of the Society previous to the submission of my motion, I ventured at the last meeting to give my views in some detail, and my remarks having been embodied in the Proceedings, I need not now repeat them. In brief, I pointed out that two Arian languages of the very highest interest, and spoken in countries now easily accessible, are still unexplored ; the learned and civilised language of the polished and ingenious Cashmerees ; and the language of Chilas or Kylas, the traditionary source of the earliest Arian migrations and myths. The learned President, Mr. Bayley, in conversation, threw some doubt on the claim of Chilas to be the true Kylas. He mentions that in the Almorah hills, the Hindoos point to the high country north of that place as the Kylas. It may be that the word will prove to be one of broad signification as applied to these high lands, but the common understanding of the Punjab certainly seems to be, that the words Chilas and Kylas are identical and I venture to think that this North-Western Kylas, still peopled by Arians, in a most ancient Arian country, is more likely to be the true Kylas, than a part of Thibet which, so far as we know, has never been peopled by Arians, but is the patrimony of races of the purest Thibetan stock. I suspect that the more easterly Hindoos merely point to unknown heights beyond the eternal snows. The modern Chilas is the more accessible country north-west

of Cashmere, and occupying the portion of the Caucasus between Cashmere on one hand and Chitral and Kaffiristan on the other, the country of which the great mountain of Nanga Parbat or Diarmul may be taken as the centre and distinguishing feature.

I noticed that *the* very little that is known of the language of the nearly adjoining Kaffiristan seemed to present some almost startling affinities to the Latin, and perhaps I may detain the meeting for one moment to give one or two examples of what I mean. I quote from the Rev. Mr. Thompson's paper on the Kaffir language. First, take the personal pronouns :

Ei. Tu. and Se or Segā—

These seem very like Ego, Tu, and Se, while in the possessive form—

Ima, Tua, Segā—

are very like, Mea, Tua, Sua.

But the resemblance to which I would most apply the term startling is in the verb to be—

Compare	Ei	Sum	I am		Sum
	Tu	Sis	Thou art		Es
	Segā	Se	He is		Est
	Ima	Sinuis	We are	} with	Sumus
	We	Sik	You are		Estis
	Segā	Sin	They are		Sunt.

The slight contents of the paper do not enable us to carry the comparison much farther.

We know nothing of the Chilas language beyond the fact which I take upon myself to assert, as the result of my observation, that it is clearly an Arian tongue. Possibly it may turn out that, if the language of the Hindoo Cashmeerees is the eldest daughter of the Sanscrit, that of the Pre-Hindoo Chilasees is the mother of that language;—it may even be that it is also the mother or the elder sister of the Latin.

The neglect of the much longer known Cashmeeree, I believe to be in great part owing to a curious accident. The old Serampore Missionaries were giants in their day; they translated the Bible, or at least the New Testament, into almost every known and unknown tongue, the Cashmeeree included, and made Grammars of most of them. Of the Cashmeeree, they did not make a Grammar, but unfortunately it somehow got into print, that “Dr. Carey had published a



Cashmeeree Grammar under the title of a Grammar of the Punjabee language :” that error was circulated, the Punjabee was mistaken for Cashmeeree, and Cashmeeree is put down in all the lists as merely “A dialect of the Hindee”—a description which applies to Punjabee, but in no degree whatever to Cashmeeree.

Punjabee, though called a language, is really merely a dialect—at most it differs from Hindee as much as Lowland Scotch does from English. The pronunciation is materially different; there are some changes of letters, *e. g.*, a pure Punjabee will say instead of ‘*Uska*,’ ‘of him,’ ‘*Usda*,’ and so on; but there is no difference of structure; very many words also seem strange to a new-comer, but most of these turn out to be pure Sanscrit—for instance, instead of ‘*bahut acha*,’ ‘very good,’ or ‘*acha bat*’ a Punjabee says “*Sath Bajan*.” Whatever you say in the Punjab, the universal answer seems to be “*Sath Bajan*.” These are purely Sanscrit words, ‘*sath*’ being ‘good,’ and ‘*bajan*’ or ‘*vachan*’ a word.

The Cashmeeree, though very Sanskrit, is in its grammar and structure, and many of its vocables, a totally different language from the Hindee or Punjabee; more different I may say than French from English, perhaps almost as different as Greek from English; and it is spoken by a wholly and essentially different people. It is evidently a much more complicated language than the Hindee. For instance, instead of the universal ‘*ka*,’ ‘*ke*,’ ‘*ko*,’ there seem to be a great variety of forms of declension of the noun by inflectional affixes and changes, like the Latin and Greek, but more varied. The verbs seem also to have regular inflectional conjugations. And in none of these do I see any near resemblance to the Hindee, beyond a community of root. Many of the words are also exceedingly peculiar, and the Pundits are well aware there is a large infusion of vocables from unknown sources. In every way there is a great field for critical study. I brought down with me a good many words and phrases, but they are too imperfect to show much. I have obtained from Serampore a copy of Dr. Carey’s Punjabee New Testament, but no one can now read it. That very learned and distinguished member of this Society, Babu Rajendra Lala Mitra, whose absence, on account of ill-health, I am grieved to notice, was kind enough to promise, as I before mentioned, to look over the papers on the Cashmeeree hitherto published, and to give me a note on the

subject which I now hold in my hand, and which, with the permission of the meeting, I will read. The result, I think, is fully to bear out my assertion of the extreme meagreness of our knowledge on the subject, and at the same time, of the extreme interest of the language, and the wide field for inquiry offered by it. The learned Babu's note also shows the difficulty of the task, the failure of summer tourists to do what is desired, and the necessity of some more effectual action. The fact is, that although most Indian languages have had the attention of most zealous and knowledge-loving men, who have collected many words and much information, this was for the most part done at a time, when language had not yet been elevated into a science and found to be one of the principal keys for unlocking the great problems of history. Now-a-days we require information in a somewhat different form, and of a more precise and exact character than was before thought of. This we cannot obtain in a mere casual way : some systematic effort is required. If the thing be once set in motion, I believe that ample means are available. I am not without hope that the distinguished native gentleman, whose note I am about to read, may himself visit Cashmere before long. In the Punjab there are several most learned and excellent members of this Society, and equally well qualified servants of Government. Dr. Leitner, the head of several new movements, is a host in himself. It is only required to make a beginning, and if the influence of this Society and of the local Government be used to effect so much, the rest will follow. Of the importance of the end proposed, I do not think that there can be diversity of opinion ; the only question is as to the particular means, and those I hope may be devised.

Mr. Campbell then read the following note by Babu Rájendrá Lala Mitra :—

“ Nearly half a century ago the learned scholar and indefatigable translator, Dr. Carey, drew the attention of European scholars to a living Sanskrit dialect till then unknown, the Kashmiri, by the publication of a translation of the Bible in that tongue. So little was it then understood, that a grammar of the Punjabi language, published soon after, was mistaken for it, and it was not till the year 1839 that any attempt was made to reduce its grammar to writing. Since then, two grammatical treatises have been published in the *Journal of the Asiatic Society*

on the vernacular language of the valley of Kashmir. The first is by Mr. M. P. Edgeworth of the Bengal Civil Service, who describes it as "a grammar and vocabulary of the Kashmiri Language," and states that he drew it up from the dialect of the shawl-weavers of Ludhiana, through the assistance of Meer Saif-u-deen, a respectable Synd of that place. In extent it is limited to 20 pages, of which the bulk is made up of straggling lists of words. The second is somewhat larger, and occupies about 40 pages of the Journal. It was compiled by Major R. Leech, C. B., and was intended to be only a "grammar of the Kashmiri language," but in reality it was made up of a number of vocabularies arranged under different grammatical headings. Like the first, it was drawn from the shawl-weavers of Ludhiana through the intervention of a Musulman. Neither of these works is of a character to afford safe data for any useful purpose. They are avowedly founded upon the language of a small community of artisans long expatriated from their native country, and not drawn directly from the Hindus of whose language they profess to treat.

The rules they contain are meagre in the extreme; the work of Major Leech illustrates the principles of grammar by examples, but gives no rule at all; altogether they are as imperfect as grammars compiled from examples drawn through the medium of interpreters must necessarily be. Nor were their authors unaware of this, for Major Leech avowed, in his preface, that his essay "does not deserve the name of a grammar," and Mr. Edgeworth admitted his to be "necessarily very imperfect."

On the subject of orthography, Mr. Edgeworth is extremely brief; he does not give more than a dozen lines, and that only to indicate in what respects the alphabet of the Kashmiri differs from the Sanskrit. Major Leech, on the contrary, is very diffuse, and devotes no less than one-third of his essay to it. But for any practical purpose, it is as useless as the first; being made up of examples of diphthongs, triphthongs and other combinations of vowels and consonants peculiar to Kashmiri.

It is evident that the alphabet of the Kashmiri is of Sanskrit origin, and the character used in writing is a modified Punjabi or Gurmukhi, a form of the Devanagari, but there appears a most remarkable difference in their nomenclature.

The early Brahmans, with great scientific precision, named their letters after their pure literal sounds, added for the sake of pronunciation to the fundamental uncoloured vowel, instead of mixing them with different vowels and consonants at random. The superiority of this system of nomenclature is so great, that it is difficult to suppose that it would be rejected in a hurry—and yet we find the shawl-weavers converting the simple Sanskrit *a*, *á*, *i*, *í*, *u* &c. into *á dou a*, *acton á*, *yoyou ye*, *is-harauce*, *upalba wos*, &c. It would be an interesting fact to know if this be the result of that tendency in the uneducated masses to convert everything to be learned into a metrical sing-song, to assist the memory? or a deliberate attempt of the Brahmans of Kashmir to imitate the *alpha* and *beta* of the Semites?

The list of nouns given by Major Leech clearly points, like the alphabet, to a Sanskrit origin. Most of the text words, such as those expressive of near relationship or domestic animals, are purely Sanskrit; but there are some which appear most puzzling. Thus the most important word of relationship, that indicative of a father; instead of being a modification of *pitrí* or *pitá* is *maul*, which bears no analogy to any Sanskrit word that I know of. The name for a child, *nichir*, is equally strange. The word daughter, *duhitá*, the young milker of the family of the early nomades, has preserved its form in all the Aryan tongues, European or Indian, which have yet been examined; but in the Kashmiri it appears in the utterly unrecognizable form of *Kul*. There are others equally inexplicable, and the question hence arises, are these the genuine Kashmiri words of the Brahmans of the valley, or pet or slang modifications of the illiterate vulgar, as the mass of shawl-weavers undoubtedly are? Nothing but a careful examination of the language of books and of the higher classes can decide this; and to do it, the language should be studied in its native country, and not in an outlying colony. In the Bengali, the ordinary words for son and daughter are *chhele* and *meye*, which at once indicate the admixture of the early Indian Aryan with the aborigines of the country. Are the non-Sanskrit Kashmiri words for father, son, and daughter due to any such miscegenation? or are they the result of casual importations? A correct reply to this question would be of great importance to the ethnological inquirer.

Nor are these vocables alone peculiar in the Kashmiri : its system of inflections and conjugations, as far as may be traced in the essays under notice, are equally foreign to the Sanskrit. The nominative appears without a case mark, as it does in all the other Indian vernaculars, but the genitive takes the particle *sund* which has no analogy with any Sanskrit inflection. It changes into *hand*, *sanz*, *hanz*, *sanza*, *hanza*, *uk*, *ik*, *ich*, &c. under different circumstances, and all of them, except the last three, are entirely foreign. It should be observed, however, that Mr. Edgeworth devotes only a page and a half, and Major Leech only a page to declensions, and it would be unsafe to draw any conclusion from them as to how far the cases given by them are indicated by inflectional particles, and how far they are made up by altering the words from one part of speech to another. The neuter genitive in *uk* and *ik* looks very much as if it were an adjective and not a substantive.

Major Leech is averse to what he calls "labouriously manufactured tenses of verbs." He thinks "much labour and time would be saved and every ordinary purpose answered, if, in case of minor dialects, a vocabulary only of words and a collection of sentences actually heard spoken, were made in the Roman character." It is not to be expected, therefore, that he would be very elaborate in the paradigms of his verbs. They hereby occupy three and a half pages. But Mr. Edgeworth gives a pretty long list of verbs, and from it, it is evident, that most of the roots are derived from the Sanskrit, and that the changes they have undergone are such as are inevitable to all languages in course of time, the decay of primitive forms and sounds, and their replacement by easier forms and combinations.

The most important test word in verbs, is the verb "to be," Sanskrit *as*. It occurs with but slight variations in all Aryan languages, and is not wanting in the Kashmiri. In the form of *as*, *ach*, and *chi*, the Bengali *áchi*, it is met with very largely, and by itself would be a strong proof of the Sanskrit origin of the Kashmiri, but in this, as in declensions, further enquiry is necessary to prove in detail the analogy it bears to the Sanskrit in all its different moods and tenses.

The pronouns are all of obvious Sanskrit origin, and so are the most of the leading adjectives and words indicative of number; but they

call for no further remark than that the information available in the subject is as imperfect as in the case of nouns and verbs.

I may say the same of adverbs, prepositions and conjunctions. For the purpose of analysing words, a thorough knowledge of prepositions is of the utmost importance; without it, to attempt the task is to attempt an impossibility; but of prepositions the two essays give next to nothing.

But I need not any further multiply examples. It is the furthest from my wish to find fault with Mr. Edgeworth and Major Leech. They were pioneers in an untrodden field, and as such, they deserve our thanks for what they have done, and not our reprobation for what they could not do; and in noticing their papers, my only wish is to point out what remains to be done, and the rich field that lies open to the scholar who would devote a season in the "happy valley" to the philology of that place.

Nearly a quarter of a-century has elapsed, since the publication of the papers under notice, and Kashmir has been visited year after year by shoals of intelligent summer tourists, but nothing has been done to throw any new light on the language of that country, and it remains to this day as ill known to us as the trans-himalayan Aryan dialects of the Hindu Kush, or mount Kailasa. The paper of the Rev. E. Trump on the so-called Kafir language—an Aryan vernacular of the Indian Caucasus, is even more imperfect than those of Mr. Edgeworth and Major. Leech, and the vernacular of Kailāsa is all but unknown to us, and yet great interest is attached to the history of those languages. They stand as landmarks of the spread of the Aryan races from the plateaux of Central Asia, and as such, have a peculiar interest for the antiquarian."

Mr. Riddell thought that it was incumbent on the Society, in making such a proposition, to indicate the course which they consider should be pursued, to attain the the object in view.

Mr. Campbell said that he could hardly take upon himself to indicate the exact method to be followed—that, he thought, must be left to the Council as the executive of the Society. He only desired to suggest the subject to the Council, leaving it to them to follow it out by such methods as they might deem most proper. With reference to further observations

on the expediency of rendering the proposition more definite, Mr. Campbell said that if he were to suggest any practical course, it might perhaps be something like this ; that the Council should try to find some qualified member of the Society willing to undertake an enquiry in Cashmere and Chilas ; that, if the Punjab Government be willing to assist, some competent officer—a member of the Educational Department for instance—might be found, whose health required a change, and who, instead of remaining in enforced idleness at a hill station, might be deputed for a little time to Cashmere—that the Maharajah might be induced to associate with this gentleman a learned and progressive Pundit ; and that such a trio might, in a few months, do all that we could wish. But, as he had said, all this must be left to the discretion of the Council, to whom he could not and would not for a moment pretend to dictate.

Mr. Atkinson suggested, as an improvement, that after the word Chilas, the words ‘and if thought advisable’ be inserted in the motion.

Mr. Campbell was quite prepared to make the alteration suggested, and moved the proposition of which he had given notice in the following form.

“That the Council be requested to consider the means of obtaining a better knowledge of the languages of Cashmere and Chilas, and, if thought advisable, to solicit the aid of the Government of the Punjab, and of His Highness the Maharajah of Cashmere to that end.”

Dr. Partridge seconded the proposition. The Chairman, in putting the motion, remarked that the importance of a thorough knowledge of a new and living Arian language could not be overrated. Sufficient attention had never been paid in India to the spoken languages, and while many scholars were occupied in the study of the literary languages of India, the vast mine of wealth that lay around us in the numerous provincial languages and dialects had been neglected. He felt sure that the Society would support Mr. Campbell's resolution.

The resolution was then put and carried unanimously.

Mr. Riddell desired to express his dissent from the remark of the Chairman, that the provincial dialects had been neglected. Numerous vocabularies, &c. had been prepared, and would be found in the Society's journals and elsewhere.

Mr. Heeley explained that what he meant to express was, that those

languages and dialects had never been made the objects of scientific study. Undoubtedly steps had been taken towards the collection of materials, but the analysis which alone could be productive of useful results, had never been applied.

Mr. Campbell then addressed the meeting, as follows :—

“It may have come to the knowledge of some members of the Society, that the Council has lately taken action with the view of obtaining in connection with industrial and other exhibitions, the collection and classification of various races of man. When I suggested the collection of the crania of the aboriginal and other races of India, the then President, Mr. Grote, remarked that the individuals more immediately interested might have some not unnatural prejudice against parting with their crania. I felt that, even when the interests of science were concerned, so reasonable a prejudice must be respected, and could only hope that they would be good enough to let the Society have their skulls, when they should no longer have use for them. At the last meeting, we had ocular proof that endeavours to this end had not been wholly unsuccessful, and I understand that on a late visit to the Andamans, Dr. Smith found a mourning widow of very aboriginal persuasion, wearing her husband's skull as a sort of locket, and who, with great anxiety, concluded a bargain for the sale of it for the moderate sum of 1 rupee. Another and more immediate solution of the difficulty has, however, been suggested, viz. that the possessors of interesting skulls might be not unwilling to let us examine them, while still on their shoulders, and on the proposition of Dr. Fayrer the Council have taken up the subject, and hope to bring about arrangements of the kind on a large scale. I believe that Dr. Fayrer is entirely right : that we are greatly indebted to him for bringing the matter before the Council; and that in many ways the study of the human features and characteristics in living specimens will be above all things interesting and advantageous. I have long thought so, and I was much struck by seeing men of most interesting and curious races carrying things down to the Punjab Exhibition two or three years ago; the men, who were *not* to be exhibited, seemed to me much more curious than the things they were taking to exhibit, and at the time I ventured to suggest that the men also might be exhibited, but it was then too late. I will not now detain the meeting by any details. I will only say that I understand



the project to be, to try, in the first instance, to obtain a sort of exhibition or congress of the local races found in and near Bengal and other provinces, on the occasion of Local Industrial Exhibitions; and the eventual hope is, that the way being thus prepared, we may at some not very distant day have in Calcutta a great ethnological congress of all the races of India in its widest sense; in fact of all Southern Asia and the Archipelago, a congress of such a character that many of the Savants and accomplished men of Europe may not improbably be induced to take a part in it. I think it most desirable that the proposition should be made known to the members of the Society at large, and to the public, with whose support I trust that it will be worked out: also that the Council should be supported in the matter by the vote of a general meeting. I hope therefore, that the Council will think it proper to read the correspondence at the next meeting, that the meeting will sanction what has been done, and that the subject will be found to be one of great general interest. With this object, I beg to give notice of the following motions at the next meeting on the first Wednesday of April.

“1. That the correspondence and proceedings of the Council regarding the proposed ethnological gathering be read.

“2. That the Society approve of the action of the Council in the matter.

“3. That a copy of the Proceedings be communicated to the Punjab Government, with the expression of a hope, that it also will take an early opportunity of collecting and comparing specimens of the various very interesting and highly developed races in and about its territory, as a measure preliminary to a more general ethnological congress.”

Mr Waldie remarked on the specimen of a Candle and Ear-rings from Burmah, presented to the Society at its meeting in January by S. Avdall, Esq.

“I have examined the samples of a Burmese candle and ear ring which was presented to the Society by the Rev. Mr. Long at the January meeting, and find that they are, as I then suggested, composed of Paraffin or the solid hydrocarbon which is found in the Petroleum of Rangoon and other places. These petroleums agree in their general characters with the oils obtained by the *slow* distillation of coal and bituminous shales, in contradistinction to the tarry products obtained by

the quick distillation of coal for illuminating gas. They are found in many quarters of the globe,—in Burmah, on the shores of the Caspian, in North America, and in numerous other places, and consist of a mixture of many oily compounds varying in degrees of fluidity and volatility as also in their relation to chemical agents. Certain of them can be removed by the action of strong acids and alkalies, which form coagula in solutions: the matter remaining is composed of a mixture of oily substances, compounds of Carbon and Hydrogen, all of pretty nearly the same composition, but of different degrees of density and volatility. When distilled, the lighter and more volatile portions come over first; the denser and less volatile last. If the latter portions be exposed to cold, a solid substance crystallizes which can be freed from the liquid oils by pressure—cold and warm—and purified by chemical processes. This solid substance is the Paraffin.

“When pure, Paraffin is a white, translucent, crystalline, brittle substance; so friable indeed, that it can be powdered even in this climate. In these respects, it differs considerably from wax, of which these ear-rings and candle were at first supposed to be composed; as also by fusing at a somewhat lower temperature. The most striking point of difference is the absence of plasticity in Paraffin, a property which renders bees-wax so valuable.

“In a scientific point of view, the subject of greatest interest, connected with these substances, is their origin. Application was made to Mr. Avdall, who presented them, through Mr. Long, but no information could be obtained on the point in question. But, as I stated at the time, I had examined specimens of a similar material which had been found in the surface of the ground in some parts of Burmah; and there can be little doubt that the Paraffin had been separated from the petroleum by the slow operation of heat, atmospheric oxygen and water, and possibly some constituents of the soil, affording another instance amongst a host of others, in which the changes which are effected by the Chemist in the laboratory or in the factory by powerful agents, in hours or days, are brought about by nature by the operation of the feeblest chemical agencies extended over years or centuries.”

Letters were read—

1. From Babu Rakhal Doss Haldar, Deputy Collector, Manbhoom, Purulia, through Col. Dalton, two letters on some old temples near the Barakar river.

The following is an abstract.

The temples (four in number) are situated on a rock close by the spot where the Grand Trunk Road crosses the Barakar river. They are surrounded by ruins which indicate that the site was that of a large monastery. The courts were at one time all paved with stone, and the temples were highly ornamented, and contained stone figures of great beauty. On the right hand side of the entrance of the most modern looking of the temples, there are two inscriptions. One of them, in the old Bengali character, dated Wednesday, the 8th of the wane in the month of Phālguna, Saka year 1383=A.D. 1459, records the dedication of a number of idols by one Haripriya, the favourite wife of a king.

Although the inscription gives no clue to the sect of the dedicator, her name (the beloved of Hari), the subject of the dedication (a number of gods), and the allusion to Haris Chandra and future rewards, leave no doubt of its being a Hindu record.

The following are its transcript and translation.

*Transcript.*

শাকো নেত্রবসুত্রিচন্দ্রহণিতে পুণ্যে বুধাহে তিথা-  
বক্ষ্যমাং রুচিরং প্রতিষ্ঠিতবতী পক্ষে সিতে ফালগুণে ।  
ঐশং দেবকুলং যথাবিধি হরিশ্চন্দ্রশ্চ ভূরিপ্রিয়ে  
ভূশাকস্য হরিপ্রিয়া প্রিয়তমা উৰ্দ্ধং ফলপ্রাপ্তয়ে ॥

*Translation.*

On a fortunate Wednesday, the 8th of the wane, in the month of Phālguna, in the Saka year 1383, Haripriya, the favourite of the most beautiful (Bhurisri) lord of the earth (king, Bhusakra) with a view to obtain rewards in a future world, handsomely consecrated a number of divine images even as Harischandra did (of yore).

2.—From Col. R. C. Tytler, describing a specimen of *Vultur monachus*.

*Umballa, 3rd March, 1866.*

“MY DEAR GROTE,—I have this moment, or rather an hour ago, shot a splendid specimen of that rare and noble bird the *Vultur monachus*. Although the bird figures in museums, little or nothing seems to be known of it, further than what dried skins can give: I have been watching those I have seen very closely, so I send you an account for publication. For there can be no doubt but that many will be interested in the little I have to say.

"I have always found this bird a very rare species : the first I ever saw wild, were two in the Punjab, in November, 1842. They were sitting in the centre of a large field, and it was quite impossible to approach them : I again fell in with another pair at Oorai near Cawnpore in December, 1855 : they were feeding on the carcass of a dead bullock, along with two or three *Gyps Fulvus*, and numbers of *Gyps Bengalensis*, *G. Indicus* and *Atagyps Calvus* ; the smaller vultures shewed no signs of alarm at the huge appearance of the *Monachus* ; but I remarked that the latter were in the centre of the group of vultures, and had evidently the masterly choice of position on the carcass. I had only No. 8 shot in my gun, and the nearest I could approach them was at a distance of about 80 or 90 yards ; so that although I fired, it proved perfectly useless. The birds scarcely seemed to feel it, for they flew lazily away, and gradually ascended to a tremendous height, describing circles in their ascent, till they were almost out of sight, and I saw nothing more of them, or of any more till in December, 1865, at Umballa, when I was driving to the City from Cantonments, and my son Frank, who was sitting beside me, drew my attention to two large vultures, surrounded by smaller vultures, on the carcass of a horse. We immediately drove up to the place, and I again saw this rare bird. There were three of them ; and they allowed us to approach with the Dog cart, as I had no gun with me, to within 80 yards, and then flew lazily away, and describing circles, ascended to an incredible height. A few days afterwards, I saw three more flying in company with other vultures, but far too high for a shot. This morning, the 3rd March, 1866, I had just returned from shooting, when I found a note waiting for me from Dr. Scott, medical store-keeper, saying he had just seen two of these birds, feeding, with other vultures, on the carcass of a horse ; and described the place so well, that although I was very tired, I at once started for the spot, and then I had the satisfaction of again seeing three of these noble vultures, not near the carcass of the horse, but at some distance from it, seated on a sand hillock along with other vultures. I approached as cautiously as I could : the position was a most exposed one, and I had a good opportunity for observing these monsters. At first they were about ten yards apart from each other, but when my presence slightly alarmed them, the largest walked towards the other, and both then raised themselves to their full height ;

and certainly they possessed a most striking appearance. They now put their bills together, which they clattered for a short time, apparently as if inclined to bite each other. I now approached within 80 yards, and as my gun was loaded with large shot, I fired at the largest. He was struck beyond all doubt, but both flew away in a most lazy unconcerned manner, and after flying about 100 yards, settled on the sandy plain, near a few sand hillocks. I again loaded, and cautiously approached the spot, concealing myself behind the hillocks till within 80 yards; when I again selected the largest, and fired both barrels into it, but apparently without any more effect than the last shot, and both flew away in a most unconcerned manner. But when at a distance of about 500 yards, one suddenly fell down dead, and I succeeded in getting this truly noble bird and examining a fresh killed specimen. It weighs 17 lbs.—extent of wings from tip to tip 8 feet 2 inches—length, including bill and tail, 3 feet 7 inches—wing 2 feet 9 inches—head and bill  $6\frac{1}{4}$  inches—tarsus  $5\frac{1}{2}$  inches—middle toe, including claw, 6 inches—middle claw  $1\frac{1}{2}$  inches: the tarsus is clothed in front with feathers to within  $1\frac{1}{2}$  inches of claws. Claws black—feet and nude skin about the head and neck: livid white, cere livid white—upper mandible dark brown—under lighter brown—head covered with downy feathers in front and top to beyond the eyes dark brown—back of the head covered with light brown downy feathers. Chin and upper part of throat covered with dark brown downy feathers, as well as the cheeks—the entire neck, eyebrows and region of ears, devoid of feathers, and the skin of a livid white; length of tail 1 foot 7 inches; round the body and wings 3 feet, general colour very dark brown.

“When flying, the *Vultur monachus* can easily be distinguished from other vultures, as no white is visible, and the tail looks very rounded. *Gyps Bengalensis* shews white in the adult bird under the wing, and the young bird shews traces of white. In *Atagyps Calvus* two white patches are visible near the breast: the other vultures are light brown, and their face is easily distinguished.”

The Council recommended, on the report of the Philological Committee, to publish the Yog Aphorisms of Patunjul, in the Sanscrit series of the Bibliotheca Indica.

The Council recommended that the Rev. J. Long be elected a member of the Philological Committee.

The following gentlemen duly proposed at the last meeting were balloted for, and elected as ordinary members.

W. Irvine, Esq.

Bábu Kadar Náth Mookerjee.

Dr. J. F. Wise.

A. P. Macdonell, Esq.

And as Corresponding Members.

The Rev. M. A. Sherring.

Professor E. von Schlagintweit.

The following gentlemen were named for ballot for the next meeting as ordinary members.

H. C. Broderick, Esq., M. D., Surgeon, 1st Regiment, Central India Horse, Augur.

Proposed by Mr. H. B. Medlicott, seconded by Mr. H. F. Blanford.

— Henry, Esq., Belgian Consul.

Proposed by Mr. W. L. Heeley, seconded by Mr. H. F. Blanford.

The receipt of the following communications was announced.

1. From Baboo Gopee Nath Sen, Abstract of the Hourly Meteorological Observations taken at Calcutta in October and November, 1865.

2. From the Government of India (Public Works Department,) the Archæological survey report of the Government of India, for 1864-65.

3. From E. B. Harris, Esq. C. S., through T Oldham, Esq.

A list of things discovered in the new excavations at Sultangunge, up to November 1865 ; with two maps.

4. From E. Thomas, Esq. The Initial Coinage of Bengal.

5. From Dr. A. Sprenger, Remarks on Barbir de Maynard's edition of Ibn Khordadhe, and on the Land tax of the Empire of the Khalyfs.

6. From C. Horne, Esq. Notes on the three villages (Anjimmi, Kareengunge and Takoora), on the cross road leading to Etah ; with rough sketches.



PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,

FOR APRIL, 1866.

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The monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 4th instant.

Bábú Rájendra Lála Mitra, senior Member, in the chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced :—

1. From H. F. Blanford, Esq., a copy of the “Pre-historic man” a lecture delivered by him at the Dalhousie Institute, Calcutta.

2. From J. Murdoch, Esq., a copy of a classified Catalogue of Tamil printed books, compiled by him.

3. From M. Lloyd, Esq., Tounghoo, a packet of specimens of indigenous tea, supposed to be the same as the Chinese plant.

The following letter and enclosure which accompanied the donation were read.

*To the Secretary Asiatic Society, Calcutta.*

DEAR SIR,—I have the pleasure to inform you that I have despatched to your address a packet containing leaves of, I think, the China Tea plant.

During a trip over the Karen hills, east of and 30 miles from Tounghoo, I encamped in a valley called in Burmese “Lekpet Aing” or the “tea lake.” On the hills about this valley I found the tea on an elevation of from 3000 to 4000 feet above sea level. I forward an extract from my official journal.

You will observe from my journal, I note that the leaf answers the description given of the tea leaf. The plantation, (it appears the trees were originally planted, see my journal,) has now become a wilderness, the bushes have become trees, some 30 to 40 feet high.



The Karens cut down hundreds of these trees annually to make room for their rice clearings.

The spot is distant from Tounghoo 34 miles. A good supply of water all the year round. Small quantities of ice can be collected in December and January: road easy for elephants and bullocks.

If the specimens forwarded are not sufficient to enable an opinion to be formed as to the value of the plant, kindly let me know how a fresh lot should be prepared before despatch.

*March 3rd, 1866.*

Yours faithfully,

M. LLOYD,

*Deputy Commissioner, Tounghoo.*

Extract from the Deputy Commissioner of Tounghoo's Journal, on his visit to the Gyeikki country.

"After crossing the Dha Thoay Kyouk mountain, the road is almost a continued descent; here and there a small but abrupt hill has to be passed over. After travelling between 5 and 6 miles, the Tha Kho Creek is crossed, a small stream which runs into the Toukyagat, whose course is east of the "Dha Thoay Kyouk" mountain. The road then passed into a valley known as Lek Pet Aing. This valley runs almost north and south, two miles in length, with an average breadth of 250 yards; the valley is surrounded by a small range of hills: whichever way the eye is turned, on these hills the tea plant is to be found in abundance. A small colony of Shans settled here last year, with a view to prepare this tea for the Tounghoo markets: the colony consisted of about 50 souls, but 30 died of fever during the rains; which drove those who were spared away. The Shans pronounced the tea plant a little inferior to the same plant found in abundance in the Shan States, but stated that, with proper cultivation, it could be greatly improved.

"The hills all about are covered with tea trees. I saw some between 80 and 40 feet high. The leaves of this tree are alternate, and have, what I have read of as peculiar to the leaf, viz. a leathery feeling and a marking with transparent spots. On making enquiries as to the origin of the trees, I am informed that between 200 and 300 years ago a Shan Tsawbwa, by name "Tonug ba loo," built a large town near Lekpet-Aing," and planted tea trees, but the Tsawbwa was not allowed

to remain long, as the Burmese attacked his people, and broke up the settlement."

4. From A. H. Blechynden, Esq., Secretary Agri-Horticultural Society, three packets of wood obtained in digging a well at Ballygunge.

Mr. Blanford observed that the specimens on the table were evidently similar in character to those which he had described in a note on a tank-section at Sealdah, published in the thirty-third volume of the Society's Journal. These had been pronounced by Dr. T. Anderson to be specimens of *Sundri*, and had been obtained at depths of from 20 to 30 feet, from stumps of trees with the roots attached *in situ*. In the paper referred to, he had endeavoured to show that their occurrence at this and similar depths appeared to obtain over a very large part of the Gangetic delta; and that it could only be explained by assuming that a general subsidence of the delta to a depth of 18 or 20 feet had taken place since the trees grew on a former land surface.

Dr. J. Anderson reported that the following specimens were added to the Museum during the month of March, 1866.

*Presentations.*

From Dr. J. Anderson, one *Vipera Russellii*, one *Cobra*, one *Sus Andamanensis*, one *Gyps Bengalensis*, one *Oriolus Melanocephalus*, one *Pteropus Edwardsii*, one *Lutra Nair*.

Through Dr. J. Anderson, a collection of snakes, lizards and crustacea from the Andaman Islands.

From W. S. Atkinson, Esq. 1 Nest of *Nectarinia Nipalensis* and of a *Nectarinia* sp.?

From J. A. Cockburn, Esq. 1 *Python molurus*.

From J. Obbard, Esq. 3 Marine boring Annelids taken from the timbers of a ship.

The Hon'ble Mr. Campbell moved, in accordance with the notice given at the last meeting:

"That the correspondence and proceedings of the Council, regarding the proposed ethnological gathering, be read." The motion having been put and carried, the Secretary read the following correspondence.

From J. FAYRE, Esq., M. D.,

*Professor of Surgery in the Medical College.*

To J. ANDERSON, Esq., M. D.,

*Natural History Secretary, Asiatic Society, Bengal.*

"MY DEAR SIR,—I shall feel obliged by your submitting the follow-

ing suggestion to the Council of the Asiatic Society for consideration, and I hope, adoption, and elaboration.

"The project may, at first, seem rather a startling one, but, on reflection, I believe it will be admitted that, were it carried out in a liberal spirit, much benefit might result to Science, and light be thrown on many obscure points in the natural history and affinities of the various sections of the human race.

"A circular has recently been issued by the Society, requesting all who are in a position to do so, to contribute Crania, with a view to the illustration of the Ethnology of India, and indeed of the world. But, valuable as such contributions might be, I think they would fall short of the advantages to be derived by anthropological science from a study of the races themselves in life.

"I would propose, therefore, that the aid of Government be sought, in conjunction with the Asiatic Society, in bringing together in one great ethnological exhibition, typical examples of the races of the old world, and that they should be made the subject of scientific study when so collected.

"Calcutta is peculiarly situated for the easy and rapid accomplishment of this project, and, with a little aid and support from Government and its officers, there can be no doubt that it might, after due notice, be easily carried out.

"The vast variety of tribes of the human race that might thus be assembled, would offer an opportunity of studying their natural history and peculiarities, that has never yet been realized.

"Such a gathering might well take place after the fashion of the late Exhibition, at Alipore, of the lower animals and the products of the country.

"The object here proposed surely has not less interest, for it is not merely in its scientific aspect that it merits consideration.

"It is not necessary now to enter into details; the general proposition is all I need desire to place before the Society. Should it meet with support from the Council, I should be happy to aid in devising a detailed plan as to the extent of the aid we should seek from Government and the public.

"Knowing the deep interest you take in this subject, I feel sure that you will agree with me in the general proposition. I therefore leave

it to you to commend it to the Council, with such support or alteration as you may deem expedient."

Yours sincerely,

*Calcutta, 16th December, 1865.*

J. FAYRER.

Extract from the Proceedings of the Council under date the 2nd February, 1866.

"Read the minutes of the Council on Dr. Fayrer's letter, proposing that assistance be requested from the Government in collecting in an Ethnological Exhibition, typical examples of the races of the Old World, that they be made the subject of study when collected.

"Referred for report to a Committee consisting of Dr. Fayrer, A. Grote, Esq., Dr. D. Boyes Smith, W. L. Heeley, Esq., Dr. John Anderson, and Dr. S. B. Partridge; with power to add to their number."

No. 139.

From JOHN ANDERSON, Esq., M. D.,

*Natural History Secretary, Asiatic Society.*

To E. C. BAYLEY, Esq.,

*Secretary to the Govt. of India, Home Department.*

*Asiatic Society's Rooms, Calcutta, 8th March, 1866.*

"SIR,—With reference to the annexed letter from Dr. J. Fayrer to the Natural History Secretary of the Asiatic Society, I have the honor to inform you, that the Council of the Society have considered the proposition embodied in the letter, and, I am requested to say, it has received their cordial support.

"The Council were unanimous in regarding the proposition as one highly calculated to advance the science of ethnology, and they believe it to contain a recognition of the only method by which many of the historical, philological and anatomical facts of the science will be rightly understood. I am, therefore, directed to request, in the hope that the proposal will meet with the approval and support of Government, that the claims of Dr. Fayrer's admirable and original proposition may be submitted for the consideration of His Excellency the Governor-General in Council.

"In the proposition, as it originally stands, it is intended to bring together in congress, typical examples of all the races of man found scattered throughout the Asiatic Continent and the Pacific Archipelago, and in no other part of the world does man present such a diversity of

physical, linguistic and social characters :—characters, however, which, as yet, are meaningless and unconnected.

“ Human history and tradition, and all the facts bearing on the history of the domestication of the lower animals, point to the above geographical area as the first residence of primæval man ; the enlarged study, therefore, of recent man in the area becomes one of surpassing importance.

“ The Council are of opinion that one great reason why the Science of Ethnology has not progressed in a ratio corresponding with that which in past years has characterized the advance of other and cognate sciences, is due to the fact that the Natural History method has never as yet been applied to the elucidation of the various phenomena which Ethnology offers for our observation and research. They believe that Dr. Fayrer’s proposition is based upon an appreciation of this great want, and they feel convinced, if the method which he has propounded for meeting it, is carried out in an enlightened spirit and countenanced by the support of a liberal Government, that Ethnology will enter upon a brilliant career of discovery.

“ It is proposed to bring together typical examples of each race, and to make them the subject of careful and scientific description. Every physical character will be carefully noted and registered by means of photographs and by plaster of Paris casts, and the type of each spoken language will be determined, and the prominent social customs of each tribe will be described ; and by applying the comparative system or true natural history method, an attempt will be made to determine their affinities.

“ The Council have the honor to suggest that the proposed Ethnological Congress would form a fitting adjunct to the General Industrial Exhibition for 1869-70, which the Governor-General in Council has recommended for the sanction of Her Majesty’s Government. On such an occasion, Calcutta, owing to its geographical position, will be thronged with the specimens of many Indian and Asiatic tribes and races ; and the Council are of opinion, that if the opportunity be fully taken advantage of, little difficulty will be experienced in illustrating the Ethnology of the whole of the area to which I have alluded, and in bringing together nearly all the persistent modifications of the human race.

"The Council are fully impressed with the importance of the many and intricate details which will have to be considered before the scheme is fully matured, 'whilst they appreciate the many difficulties which suggest themselves: still they are satisfied that the scheme is one which can be matured, if the Government of India will give it their countenance and support.

"As a preliminary step to the further maturing of the scheme, I am desired to suggest that a detailed statement of the various races found in India be called for from each Government. The Council believe that such a list would be of great interest, and prove a valuable aid to the study of Ethnology.

"If the sanction of Government is given to Dr. J. Fayrer's proposal, and the Council's suggestion that the Congress should form a part of the General Industrial Exhibition for 1869-70 is approved, it will be necessary ultimately to interest the services of the French, Russian, Chinese, Spanish and Dutch Governments, with the view of obtaining examples of the various tribes found in their Asiatic territories, and from the interest which the majority of these Governments have always manifested in the progress of science, the Council feel confident that the proposed Congress will meet with their cordial support.

"Knowing that the Government of India has always, in the past, lent aid to any scheme tending to spread a knowledge of the benefits of civilization and to advance learning, the Council have every assurance of the success of their proposition, and feel confident of the support of Government."

I have, &c.

(Sd.) JOHN ANDERSON, M. D.

*Secretary for Natural History, Asiatic Society.*

A copy of the above was also addressed to the Secretary, Government of India, Foreign Department.

No. 141.

From JOHN ANDERSON, Esq., M. D.,

*Natural History, Secretary, Asiatic Society.*

To the Secretary to the Government of Bengal,

*Asiatic Society's Rooms, Calcutta, 8th March, 1866.*

"SIR,—I have the honor to submit for the consideration of His

- Honor the Lieutenant-Governor, the accompanying letter from
- Dr. Fayrer to the Natural History Secretary of the Asiatic Society of Bengal, and a copy of a letter addressed by the Council of the Asiatic Society to the Foreign and Home Secretaries to the Government of India.

“ I am requested by the Council to lay before you a modification of Dr. Fayrer’s proposal, in the hope that it will meet with the approval of His Honor the Lieutenant-Governor. The Council believe that this modified proposition might be carried out with comparative ease during the Agricultural Exhibition at the end of the present year, and with great advantage to Anthropological Science.

“ This modified proposition is not intended to interfere with or supersede the original one, which the Council vain hope will meet with the cordial support of the Government of India.

“ The Council are of opinion that an Ethnological Congress of all the tribes found in Bengal, Nepal and Burmah, and in the Andaman and Nicobar islands would be one of easy accomplishment ; especially at the time indicated, as examples of many of the above tribes will be drawn to Calcutta by the Agricultural Exhibition.

“ If this proposal meets with the approval of the Lieutenant-Governor, the Council of the Asiatic Society have to request, with a view to further details, that His Honor will be pleased to instruct all Commissioners in Bengal to furnish official lists of all the races of men found in their respective districts, and to indicate in these lists the means at their disposal for the transport of individuals of each tribe to the Congress in Calcutta, and the probable expense of so doing.

“ The Council, after a careful consideration of the whole subject, believe that this is the first step to the completion of the design, and as all the arrangements will still remain to be made for the transit of specimens of each race to Calcutta after the above returns have been supplied, the Council earnestly request that the information now called for, may be furnished not later than the end of April.

“ The Council, in recommending this project for the consideration of the Lieutenant-Governor, feel certain that there can only be one opinion regarding the scientific importance of Dr. Fayrer’s conception in its modified form, and of the amount and kind of knowledge it will convey to us of Indian Ethnology ; and they have therefore every

confidence in submitting the proposition for the sanction of the Lieutenant-Governor, who has always manifested a keen appreciation of the benefits which result from scientific research."

I have, &c.

(Sd.) J. ANDERSON, M. D.,  
*Natural History Secretary, Asiatic Society.*

No. 1577.

From J. GEORGE HEGAN, Esq.,

*Offg. Junior Secretary to the Govt. of Bengal.*

*To the Secretary to the Asiatic Society of Bengal.*

*Fort William, the 16th March, 1866.*

General.

SIR,—I am directed to acknowledge the receipt of your letter, No. 141 of the 8th instant, and in reply to say that instructions have been issued to all Commissioners under the authority of the Lieutenant-Governor, for the preparation and submission of lists of all races of men found in their respective divisions. I am at the same time to point out that the Asiatic Society are mistaken in supposing that there will be a general Agricultural Exhibition held at the end of this year. It is not proposed to hold such exhibition till the cold weather of 1867-68.

I have, &c.,

(Sd.) J. GEORGE HEGAN,  
*Offg. Junior Secy. to the Govt. of Bengal.*

Mr. Campbell then addressed the meeting as follows:—"My next motion is this—

2. "That the Society approve of the action of the Council in the matter."

"You have now heard the correspondence which speaks for itself and shows you Dr. Fayer's plan and the proceedings of the Council upon it. It is true that the whole matter is as yet in embryo, but my object in bringing it forward to-night, is the hope of enlisting, in favour of the project, the sympathies of the members of the Society in all parts of the country, and of the public at large. Nothing can come into the world full fledged, and things don't grow in the dark. I hope that by the aid of many energetic and highly-informed mem-



bers, and by enlisting in the discussion the Public and the Press, the thing may gradually take practical shape and fruit may be borne.

"I will not now address myself to the more magnificent proposal which Dr. Fayer, with a worthy enthusiasm, hopes to realise some years hence, a great International Congress, in which the races of all Asia, Australia, and the Isles even to the farthest Pacific, may be collected together in Calcutta as a great centre, and all the Savans of Europe and America may flock here to see them. *That* may, I hope, some day be realised; but it will take time, and there are steps intermediate before arriving at that consummation. I do not wonder that at this early stage the Government of India should cautiously abstain from pledging themselves to the Congress, till the project has taken a more definite shape. Meantime they give us the assistance which we desire, by collecting information for us. Looking especially to the advantage of a practical beginning, I would submit to the meeting a few remarks regarding the humbler project, which is the subject of the letter to the Government of Bengal. It seems probable that a commencement can best be made by Local Ethnological Exhibitions on a comparatively small scale, and such as can be carried out at small expense and with machinery ready to hand. The body of scientific men in this country is not so great, nor the interest of the public in a single subject so absorbing, that a Local Ethnological Exhibition could be expected to stand alone; but it may, as the Special Committee on the subject thinks, with great advantage and interest, be combined with the Local Agricultural and Industrial Exhibitions. For a project of this kind, no place is so favourably situated as Calcutta, and no country contains a greater and more interesting variety of races than the Bengal Lieut-Governorship and its borders. If we go no further than the bazars of this city, we there find an immense assemblage of most marked tribes and races of almost every nation and every clime of Southern Asia and the Isles. And, as I think I once before remarked, if we only explore this 'maidan' at our doors, and examine the coolies working on the ditches, we may discover races more peculiar, more unknown and undescribed, more ancient, and more interesting, than in any savage and remote country in the world. The aboriginal races come down very largely for labour of this kind. I often stop and look at them, and I have tried to make something of

them, but they don't understand me ; I don't understand them ; and they don't seem to realise the interest of ethnological inquiries, so I have not progressed much. In brief, however, I say, that if we go no farther than our bazars and our labouring coolies, we have the materials for a large and important Ethnological Exhibition. The varieties of the race are there, but without some arrangement, classification, and means of enquiry, little can be done. The proposal really is little more than to collect and marshal good and characteristic specimens of the races ready to hand, at such time and place, and with such facilities for communication, that they can be systematically studied by those who take an interest in such matters.

"To render complete an Exhibition of this kind in Calcutta, we should hope that the Local Government would consent to bring together, at no greater expense than is now devoted to the transport of animals and goods, specimens of such races subject to it, as are not found in and about Calcutta. I will only glance at some of the races within the limits of the Province. To begin with, we have not only in Bengal but also in Behar a large portion of Hindoostan, and good samples of the Hindustani races. All or almost all the tribes and castes of Bengal and Hindustan, would be represented without any difficulty. On the western border-land, in the Chota-Nagpore Commissionership and the borders of Cuttack, we have what I can only describe as a perfect congeries of aboriginal tribes of every kind. Dravidian Gonds and Rajmahalees, the Coolie tribes, Moondales and Bhoomiges and Sontals ; Bhooyas and Khonds and others yet unclassified. They are all within easy reach of Calcutta, (when not, as they are for the most part, already here,) and they have much engaged the attention of a very scientific man, Col. Dalton, the Commissioner. An exhibition of Aborigines would be the easiest thing in the world. And as they are such excellent labourers, they might be utilised as Coolies to put in order the Exhibition grounds at certain times, while at others they take their seats for the instruction of the Public.

"Then on the other side of Bengal, on the East, we have another equally extensive congeries of races of another great stem of the human family, the Mongolian and Indo-Chinese, represented in its principal branches, Thibetan, Burmese, Siamese proper, and by a vast variety of tribes, civilized and savage. Of these also, an assorted cargo

might very easily be brought down in a Steamer. A few Andamanese would give us one of the most primitive and interesting of all races. The port of Calcutta would supply Chinese and Malays, Africans, and men of the Persian Gulf and Arabia. Some interesting specimens might be obtained from Nepal and Burmah, each within a very few days' journey. Altogether, I maintain that at a very small expense, and with very easy arrangement, a very large and important Ethnological collection might be brought together at any Exhibition in Calcutta. The plan then which I would suggest, would be somewhat as follows. That an Ethnological branch should be added to the next Agricultural Exhibition, in which, without in any way, degrading men and brethren to the position of animals, opportunity should be given for studying man at least to the same extent to which animals are studied; a study which, in the case of humans, should extend to language and to mental qualities, as well as to physical qualities. I would engage a suitable number of individuals of pronounced type, as Exhibitors on a suitable remuneration. I would erect a sufficient number of booths or stalls divided into compartments, like the boxes in a theatre or the shops in a bazar; I would arrange, that on certain hours, on certain days, the Exhibitors, classified according to races and tribes, should sit each in his own stall, should receive and converse with the Public, and submit to be photographed, painted, taken off in casts, and otherwise reasonably dealt with, in the interests of science. I would have each stall properly labelled with particulars of race, habitat, age, &c. of the occupants, and would provide competent interpreters to enable them to communicate with the Public. In this way I think that a commencement might be made of such a scientific study of man, as has never yet been attempted; and I believe that those who first in practice break the ice and commence work in this direction, may be the Pioneers of great movements and earn for themselves a name in history.

"I hope, I need scarcely argue, that a movement of this kind is no mere *dilettanteism*. Of all sciences, the neglected study of man is now recognised as the most important. The breeding of horses is a science; the breeding of cattle is a science; I believe that the breeding of short-horns is one of the most exciting of English occupations, but the breed of man has hitherto been allowed to multiply at hap-hazard.

Man himself should surely be the subject of a science ; not only are his physical features parallel to those of the animals, and capable of a like\* improvement, but we know that mental qualities also are hereditary, and we may presume capable of similar improvement. From a scientific study of Man, his physique, his language, his laws, his mind and his manners, much of history, prior to written record, is brought to light ; and as history repeats itself, by studying contemporaneous races in an early stage of development, we may best see man as he existed many thousand years ago. When we better understand his nature, his varieties, and the laws of his development, we may better improve him. Already great questions are pressing on the world, with which, from want of a sufficient knowledge of the creature man, we are totally unprepared to deal. The world is becoming more and more one great country ; ~~race~~ meets race, the black with the white, the Arian with the Turanian and the Negro ; and questions of miscegenation or separation are very pressing. In more than one quarter of the world the Negro is a great difficulty, and opinions regarding him are still utterly discordant. Some assert him to be not only a man and a brother, but just as good as ourselves ; others assert that he is only fit for slavery. Even in these days, I find that in England, at the Anthropological Society, a bold naval officer broadly propounded that last doctrine, apparently, (if we may trust the report,) with considerable sympathy among the audience ; and he even went so far as to enunciate, with reference to the late lamentable occurrences in Jamaica, that it was totally unnecessary to wait for the evidence, since, to his knowledge, the Negro is an animal so vicious, so stupid, so degraded, that it *must* have been right to shoot him down. To solve the great questions of the day, we ought to know how and how far the varieties of our race are capable of improvement ; what is the effect of the intermixture of various races, and much more besides. We have here, as I said, at a point where the extremes of different races meet, and where we have them both pure, and blended in every possible degree,—we have here, I repeat unrivalled opportunities for such studies, and I trust that we shall make the most of them. I beg to move that the action of the Council in this matter be approved by the Society.”

Mr. Beverley seconded the proposition ; which was then put to the meeting, and carried unanimously.

Mr. Campbell then rose to propose the third resolution, of which he had given notice, and addressed the meeting to the following effect:—

“ I hope we may look to see the way paved for a great Ethnological Congress, not by one only, but by many local Exhibitions. I have addressed myself more particularly to that which we may, I trust, before long have in Calcutta; but there is one other locality which I would also wish to be permitted to make the subject of a special motion, on account of its extreme importance. I allude to the Punjab. I may almost say, that if one-half of the races of mankind are to be found in Bengal, the other half may be found in and about the Punjab. At any rate not only all India, but all Asia, and a good deal besides, would be represented at the two points of Calcutta, and Lahore or Peshawur: the south and east at the one, the north and west at the other. If the varieties to be found in Bengal are perhaps more numerous and more original, on the other hand, the highest types of the human race are to be found in and near the Punjab. The farther you go towards the northwest of India, the finer and handsomer do the people become, and I have no hesitation in saying, that the very highest development of the human race, the greatest personal beauty of feature and form, is to be found in those regions; while, in point of mental acuteness also, the Cashmeree, for instance, is probably excelled by no race in the world. The people of the Punjab plains, though somewhat dark, are really as fine a race as can anywhere be seen, and in the hills immediately beyond, we have races free from any intermixture of the blood of the Southern Aborigines, (which probably more or less intermingles with most Indian races); the very purest Arians, fair, robust, high-featured, eminently handsome. Whether we European Arians have mingled with some aboriginal Esquimaux or Finns or primeval Fish-eaters of some sort, I do not know; but we cannot all be said to be remarkably beautiful, especially the labouring classes. In the hills of the Indian Caucasus, almost every coolie that you meet with a load of apples on his back, might be taken in marble as a model of the human kind. In the Punjab then, from among the various races of Punjabees of the plains and hills, the Cashmerees, the Affghans, the Chilasees and Kaffirs, the Persians and Beloochis, as well as some of the Northern Hindustanee tribes, might be collected the finest show of Arians possible in the world. Again, specimens of all

the Turkish and Mongolian tribes are readily available. That most remarkable race of Mongolian feature, Persian tongue, and remarkable energy and industry, the Hazariks of the hills about Ghuznee, come freely to the Punjab to seek labour; and there are in those quarters many other peculiar tribes. The Turkish race reaches in fact into the territory of the Maharajah of Cashmere, and both by that route and by Cabul, Turcomans and Northern Asiatics of every degree find their way to the Punjab. There is a Thibetan population all along the north-eastern frontier of the Punjab territories, and the races of Central Asia come in freely by that route. Thus then we might have at Lahore the finest Arian races, some of the finest Turanian races, and a great variety of races blended between the two. We may look, I think, to the Lieutenant-Governor of the Punjab to encourage any good movement for the advancement of knowledge. I therefore would bring the present movement specially to his notice, by moving the following resolution:—

“3. That a copy of the Proceedings be communicated to the Punjab Government, with the expression of a hope that it also will take an early opportunity of collecting and comparing specimens of the various very interesting and highly developed races in and about its territory, as a measure preliminary to a more general Ethnological Congress.”

Mr. Atkinson seconded the resolution.

In support of the motion, Mr. Beverley wished to point out that, although from the enormous variety of district frontier tribes, Bengal offered peculiar facilities for such an Exhibition, as had been proposed, still, much valuable information might be collected in the Punjab, in which direction lay the ancient Iran, the cradle of the human race. It was to be expected that we should there find important facts which would help to throw light on the earliest history of man. The degree of assistance which the Society might expect from Government in this matter, would depend, in a great measure, upon the exertions with which, in the mean time, it amassed the requisite facts and information to give interest and value to the specimens when collected. He might say, the world was looking to this society for the solution of many of the difficulties in which the early history of man was involved, and it therefore behoved each member to exert himself. There were two

aspects in which this subject might be studied, the physical relations of the various races, and their language and customs. Every one might not be competent to deal with the subject in both branches, but there were few of the Society's members, who could but take an interest in one or the other of them.

Mr. Blanford could not accept the suggestion of Mr. Beverley, that the centre from which man had radiated, was probably identical with the traditional centre of the Arian race. It is indeed unknown at what geological period the human race commenced, but the known facts of primitive ethnology indicate that man's development in his earlier stages was very slow, and he could not have made, and indeed so far as we know, did not make his appearance in Western Europe, at the close of the glacial period, until he had made very great advances, and had discovered the arts of producing fire, and of providing himself with clothing; the former especially a discovery of great difficulty and of the highest importance. But the climate of Iran was not at the present day one suited to an utterly savage race, and there is good reason to believe, judging from the observations of Dr. Hooker in the Lebanon, and of Indian Geologists on the former extension of the Himalayan glaciers, that in the later Tertiary period, it had been still less adapted to the wants of savage man. Moreover during a great part of the later Tertiary period, a sea of considerable extent had occupied much of the region of Central Asia, east of the Caspian and north of the Hindoo Kush, and had, for a long period, acted as a barrier between the faunas of S. E. Asia on the one hand, and that of Siberia and Europe on the other. Even at the present day, there is a marked distinction between these faunas. He thought that the region of the anthropoid apes, which in habits and wants most nearly resembled the undeveloped animal man, was a far more probable centre of the latter's origin, and it was noteworthy that in this and the neighbouring region of Australia, are to be found at the present day some of the lowest human types, the Negritoes and Atstralians. We could do little more than speculate at present, but such facts as we have, appeared rather to point to an equatorial region as the place of man's origin, than to that in which man had developed into a higher form of animal, and from which he had issued at a later period to dispossess and drive backwards the less advanced forms of his species.

Mr. Beverley, while admitting the high importance attached to geological discoveries, nevertheless doubted whether the investigations in Central Asia had been sufficiently elaborate, to warrant the conclusions drawn by the Honorary Secretary. So far, however, from his having started a *novel* idea, the theory was that which, up to the last year or two had obtained universal acceptance, and the *onus probandi* lay on those seeking to overthrow it. But there was some presumptive evidence in favour of Iran, or the parts of Central Asia thereabout, being the earliest seat of the human family. It was to that country that the earliest traditions all pointed, and the history of every country always led us back. It was from Central Asia that successive races had spread both east and west to drive on and supplant each other. In the west we had the irruptions of the Huns, the Goths and the Turks, while India itself had been frequently invaded from the north-west. Indeed it would seem as though, in the struggle for existence, the most barbarous tribes had been driven farther and farther from the common centre, and while seeking therefore for aboriginal tribes in the islands of the Pacific and other out-of-the-way corners of the world, we should nevertheless expect to find the cradle of the human family in that region, where, apart from European influences, the race had made the greatest progress in physique and civilization.

Major Norman observed that many of the Punjab regiments offered a great variety of materials for the study of the races from Central Asia. In one regiment there were a number of Siah-Posh Kafirs, in another, men from the neighbourhood of Kandahar. He thought that an exhibition of such men would be most desirable.

Mr. Campbell could bear witness to the extreme interest of the Ethnology of many of the Punjab regiments. As a member of the Statistical committee he had endeavoured to obtain a return of the various tribes represented in these regiments, with tables of the average height, weight, and character of the men. This last characteristic is especially well developed by the discipline of a regiment.

Dr. D. Boyes Smith stated that Dr. Fayrer was unavoidably absent from the present meeting, to his own great regret.

The motion was then put to the vote and carried unanimously.

The Chairman gave notice that at the next meeting the Council would move: "That this Meeting is desirous of placing on record its



appreciation of the enlightened interest in the promotion of the study of Oriental Literature, evinced by the Lieut.-Governor of the Punjab, in his late reply to the address of the founders of the proposed Oriental College at Lahore."

The following letter from E. C. Bayley, Esq., Secretary to the Government of India in the Home Department, was read :—

No. 3169.

*From E. C. BAYLEY, Esq.,  
Secretary to the Government of India.*

*To J. ANDERSON, Esq., M. D.,  
Secretary of the Asiatic Society.*

*Dated, Fort William, the 31st March, 1866.*

Home Dept., Public.

Sir,—With reference to your letter No. 172, dated the 23rd instant, I am directed to state that the "Bill to provide for the establishment of a Public Museum at Calcutta," having passed into law as Act No. XVII. of 1866, the Governor-General in Council is prepared to take over the collections of the Society, and to place them in the hands of Trustees, in conformity with the provisions of the above-mentioned Act, and with this view, His Excellency in Council requests that the Council of the Asiatic Society of Bengal will, as required by the law, nominate four Trustees as early as possible.

I have &c.,

E. C. BAYLEY,  
*Secy. to the Govt. of India.*

Letters from C. C. Stevens, Esq. and R. L. Martin, Esq., intimating their desire to withdraw from the Society, were recorded.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members :—

H. C. Broderick, Esq., M. D.; N. A. Henry, Esq., the Belgian Consul.

The following gentlemen were named for ballot, as ordinary members, at the ensuing meeting :—

W. H. Coxe, Esq., Krishnagar College, proposed by Mr. A. Grote, seconded by Mr. H. F. Blanford.

Lieutenant B. Lovett, Kohat, proposed by Mr. H. F. Blanford, seconded by Mr. W. S. Atkinson.

Baboo Peary Chánd Mitra, proposed by Mr. W. S. Atkinson, seconded by Mr. H. F. Blanford.

Baboo Soorut Nath Mullick, Howrah, proposed by Baboo Jádava Krishna Singh, seconded by Baboo Rajendralálá Mitra.

The receipt of the following communications was announced :—

1. From Baboo Gopinath Sen, an abstract of the results of the Hourly Meteorological Observations taken at Calcutta for December, 1865,

2. From Lieutenant-Colonel R. C. Tytler, "Description of *Drymoica Verreauxii*."

3. From C. Horne, Esq., "Notes on Jusrow village and its ruins."

4. From W. Herschell, Esq., "Description of the Chandrarekha Gurh near Sashtañee, Purgunnah Nyegong, Midnapore."

5. From Lieutenant-Colonel J. E. T. Walker. "The Russian geographical operations in Asia."

6. From G. E. Ward, Esq., "Note on the existence of Buddhist remains in the Dhoon."

The Secretary read Mr. Ward's note as follows :—

"As I see that Mr. Forrest has again directed attention to the probable existence of Buddhist or other remains in the Doon, I take the liberty of writing you word of some facts which have come under my own observation, in the hope that more experienced antiquaries may be induced to examine the subject, or at all events that I may gain some hints as to any materials that may exist, for arriving at some knowledge of the Doon's past history.

"About two years ago, the proprietor of an estate at Horawala, in trenching for tea, turned up the remains of what he took to be an old palace. No coins or inscriptions were found, but a large quantity of bricks, of which some are said to have measured  $24' \times 24' \times 9'$ . No one being on the spot who cared for such things, the bricks were broken up, and the greater part built into a tea factory. The largest brick I could find at all perfect, measured  $16\frac{1}{2} \times 16 \times 6\frac{1}{2}$ , but I saw many shapeless fragments of what must have been larger bricks than this one. One fragment I measured was  $15 \times 9 \times 8$ . I understand that there was a mark found upon all the bricks turned up; but I found no traces of such a mark myself, and could not form a clear idea of the nature of it from what I heard. There is a mound near the

tea plantation, which, I suspect, contains more relics. Horawála is situated on the slope of the Himalayas immediately under Badráj, at a distance of about 8 or 9 miles, as the crow flies, from the Jumna, and occupies a commanding position. Separated from Horawála and its surrounding small villages by the Kot Naddi, is a lofty eminence called by the natives Dhobri, which bears a local reputation of having once been a place of some importance. Numerous fragments of bricks are washed down from it, by the torrents formed during the rains, into the Kot Naddi on the east and the Maota on the west. Both these rivers have their source in the ravines of Badraj, and for some distance run almost parallel to each other with a very small interval. The Maota, however, is united to the Gahna and takes its name for some distance before the Kot joins it, and with it forms the Sitlawala Naddi. The hill called Dhobri, which is only known to the records as part of the township of Súrna, is a long narrow and excessively steep barrier between the Kot and the Maota. Ascending from the Kot, one reaches a terrace about half way up, which is exceedingly regular in its formation, and much unlike anything I have observed in the other hills below the Himalayas. The summit is now barely a yard in width, the descent to the Maota being a tremendous precipice, though the tiny thread of water which constitutes that river, runs far away from the side. As one proceeds to the north along the summit, one meets two sudden breaks in the hill, which have every appearance of being artificial. Passing these, one can with difficulty arrive at a peak, now tenanted by birds, with precipices on three sides, and the latter of the two dykes I have mentioned on the fourth. Nothing can exceed the desolation which at present characterises the spot, yet even on this summit I found fragments of bricks similar to those I had seen all about the hill. These fragments measured 8' in breadth by  $2\frac{1}{2}$  in depth, and the greatest length I saw was 9'. I must add that north of this spot and of Horawála, are the villages of Kotra and Kothi, which names, with that of the river Kot, seem to indicate the memory of some ancient citadel. The remains at Pirthipúr consist of an old fort surrounded by a moat and by thorny bamboos, and a Hindu temple and some Satis; but there are traditions of an extensive city situated in what is now the Pirthipúr forest, and traces of an old aqueduct running through it. In recent times Pirthipúr was the place where

the Viceroy (Miyás) of the Náhan Raja held at the Gushmál D. are found at the latter place, built in with those of a later date, the smallest I have seen; and I think it probable that both Pirthipúr and Nawáda were selected as being historical places. Besides the spots I have mentioned, the ancient remains of Santaugarh, said to have been demolished by Akbar, the site of Kalyanpúr marked by a curious well lined with alternate rows of brick and stone, and a hill immediately above the village of Bijepúr on the opposite side of the river Tons, are, I think, worthy of attention. At present less seems to be known of the Doon than of any other part of British India, though there can be no doubt, it has been a most populous district, and is one of the most sacred tracts of Hindu geography. The native traditions now current are various, and not easily reconcileable. Some attribute the origin of the name Doon to Drona; and the spot is pointed out near the junction of the Tons and the Jumna, (outside the Doon,) where the sage performed penance for many years. Another story is, that a Baujárá whose name is not given, peopled the valley and remained uninolested for some years, through the neighbouring Rajas being unaware of the existence of the Doon. There is a spot called Gangbhewa near the Jumna, where the Ganges is said to have visited this Baujárá, who was at this time unable to proceed to Hurdwar, but this tradition would seem more naturally to apply to Drona."

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Dr. Anderson reported that the following specimens were purchased for the museum during March last:—

- One skeleton of a Bhootea.
- One *Ciconia alba*.
- One *Graculus carbo*.
- One *Grus Antigone*.
- One *Mycteria Australia*.
- One *Paradoxurus Masungus*.
- One *Corvus splendens*.
- One *Emplocomus albo-cristatus*.



PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR JUNE, 1866.



The last monthly general meeting of the Asiatic Society was held on Wednesday, the 6th instant.

W. L. HEELEY, Esq., Vice-President, in the Chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced.

1. From J. H. Crawford, Esq., a steel print portrait of Sir Jamsetjee Jejeebhoy, Bart

2. From Moulavi Agha Ahmad Ali, through Professor Blochmann, a copy of "Muayzid-i-Burhan," a lexicographical work in Persian.

3. From Professor Goldstucker, Principal Editor, Sanskrit Text Society, a copy of the "Nyaya Mala Vistara"

4. From Capt. G. C. Depree, two Rubbings of a Pali inscription from a cave below the celebrated Ramgurh hills in Singooja. The following letter accompanied the donation :—

*Chota Nagpore, 6th May, 1866.*

MY DEAR HEELEY,

I have to-day sent off a book post packet, containing some rubbings of a Pali inscription cut in a cave below the celebrated Ramgurh Hill in Singooja, which was described by Col. Dalton, and published in the Asiatic Society's Journal in his "Notes of a tour, &c." Will you kindly give the said rubbings over to any savant, and send me particulars of the translation when one be made. You will see that in addition to the rubbing of each letter, I have subscribed the form of the letter carefully copied by hand: this will elucidate a doubtful impression. The second or western inscription I copied entirely, as my

hand became accustomed to the character, and the letters were all repetitions of those in the eastern inscription.

I have some water from the hot springs of Sirgooja, also some surface coal from the same locality. Will they be of any interest to the Society? If so, I will send them down.

Believe me,

Yours sincerely,

(Sd.) G. C. DEPREE.

5. From J. Westmacott, Esq., specimens of canes, rattans, and a skull of a deer, from Jessore.

6. From S. Jennings, Esq., a specimen of a flying lizard, *Draco Dussumieri*.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected as ordinary members :—

R. B. Smart, Esq.; Capt. J. Macdonald; T. W. Gribble, Esq., C. S. J. Sime, Esq., B. A.; W. H. Bourke, Esq.; Barrister-at-Law; Dr. H. B. Buckle, C. B.; C. Brownfield, Esq.

The following gentlemen were proposed as ordinary members :—

A. Anderson, Esq., Fyzabad, proposed by Mr. Grote, seconded by Mr. Blanford.

M. H. Ormsby, Esq., proposed by Mr. Ball, seconded by Mr. Fedden.

J. H. Mathews, Esq., proposed by Mr. Locke, seconded by Mr. Blanford.

Letters from Capt. G. M. Bowie and J. C. Wishaw, Esq., intimating their desire to withdraw from the Society, were recorded.

In accordance with the amendment carried in the last meeting, the following papers were laid on the table :—"An address of the native nobility and gentry of Lahore and Umritsur, to the Hon'ble D. F. McLeod, C. B., Lieutenant-Governor of the Punjab, on the establishment of a College for the study of Oriental languages:" and His Honor's reply to the same.

The Secretary read the following memo. and a letter from the Hon'ble Mr. Macleod :—

*Memorandum on proposed Oriental University at Lahore.*

HAVING waited for a length of time, after replying to the Address of the Lahore and Amritsur gentry on the above subject, expecting to receive from their Committee a statement of the course they intended

to pursue, and finding that they made no move, I had an interview on the subject with Dr. Leitner, which ended in his requesting me to suggest to them in writing the measures which I would advise them to adopt.

I accordingly wrote to them, that there appeared to me to be only two methods in which Government could effectively co-operate with their Committee, viz. :

1. By so far modifying the rules of the Calcutta University, as to admit of purely Oriental Colleges being affiliated to it; appropriate honours and degrees being awarded to the foremost pupils of these Colleges, by a special machinery formed for the purpose; grants-in-aid being, at the same time, allowed to these Colleges;—or

2ndly. By so far modifying the Grant-in-aid Rules, as to admit of an Oriental University, such as the Committee propose to establish for the Punjab, receiving a grant-in-aid; and being otherwise dealt with as a grant-in-aid Institution.

The Committee, I find, unanimously preferred the latter, and within the last few days, I have received from them a Resolution in English\* to this effect, which I am now about to submit to Government.

I intimated to Dr. Leitner, that I considered the first of these methods, if practicable, to be by far the preferable one, and pointed out that if they did not at least make the effort to secure its adoption, they would subject themselves to the same charges, which they bring against the Anglo-Educationists, of being too exclusive. But they have nevertheless, as I have stated, determined to solicit the adoption of the second measure, in preference—despairing, it would appear—and not perhaps without reason—of obtaining any such concession on the part of the Calcutta University, as would meet their views.

Not being myself conversant with University matters, and being at a distance from the Head-Quarters of the Supreme Government, where the Calcutta University has been established, I feel that I am by no means competent to discuss this matter, or to advise in connection with it, successfully. And accordingly, if the members of the Asiatic Society who take a deep interest in the cause of Oriental Literature, and are more favourably circumstanced than I, will afford us the

\* A copy is subjoined.



aid of their advice and encouragement, they will be rendering us, at the present time, a very essential service.

D. F. M'LEOD.

*Lahore, the 22nd May, 1866.*

*Resolution of provisional Committee at Lahore, in regard to the relation which they desire to be established between the proposed Oriental University and the Government.*

The following Resolution was arrived at by the provisional Committee of the Oriental University, consisting of more than half of the supporters of the movement, at a meeting held on the morning of the 30th (thirtieth) of April, 1866 :—

“ That the supporters of the Oriental University movement consider it essential to the success of the objects they have in view, that the Oriental University should have a separate existence; that it should give every guarantee of proper financial management which the Government and the public may require; that the Grant-in-aid rules are the only ones which at present meet the case of the Oriental University, but that they should be in so far modified as to admit of the direct control of the Vice-Patron, the Governor-General; Chancellor (the Lieutenant-Governor); the Official Governor and the Council; \* which the dignity and vastness of the scheme, as a national one, essentially require.”

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The above papers having been read, the Chairman moved on behalf of the Council—“ That this meeting is desirous of placing on record its appreciation of the enlightened interest in the promotion of the study of oriental literature evinced by the Lieutenant-Governor of the Punjab, in his late reply to the address of the founders of the proposed oriental college at Lahore.”

Major Lees said that he desired to make a few remarks before the resolution was put from the chair, for two reasons—*First*, to correct an erroneous impression that had got abroad, that any apathy had been shown by the Society in noticing the movement that have been made in the Punjab for the encouragement of the study of the oriental

\* *Vide* rough draft of the Oriental University as published in the *Lahore Chronicle* and the *Punjab Educational Magazine*.

classics; and *second*, to point out the close connection that existed between the Society and the principles involved in this movement.

He had seen it stated, he said, in the public prints, with reference to the reasons assigned at the last meeting of the Society, for postponing the resolution now before the Society; that "it was negatived, because this Society, once the most famous in the world as the creation of Sir William Jones and supported by James Prinsep, Wilkins, Colebrooke, Leyden, and H. H. Wilson, had not even read the address, and the Council could not supply them with a copy." Mr. Macleod, it was added, must be ashamed of his would-be admirers, and it asked "if there was no genuine scholar in the Society to redeem its reputation?" Now he was prepared to show that there was no apathy on the part of this Society in this matter. The reply of the Lieutenant-Governor was first published in the *Lahore Chronicle*, very few copies of which journal reached Calcutta, and no sooner had notices of it appeared in other newspapers, than he had very many applications from members of this Society for permission to peruse it, but copies of this paper could not be obtained here. A resolution, however, somewhat similar to that now before the meeting, was at once drawn up and submitted to the President of the Society: but it was thought that more publicity should be given to the views of Mr. McLeod before any movement were made by the Society. He then had a copy of the Lieutenant-Governor's reply published in a daily paper; but it is known to all, that the official duties of every one in India are so arduous, that they have not always leisure to read all that appears in the daily papers, on the day that it is published, and thus, frequently, valuable information is lost sight of. He stated that he had immediately addressed several parties at Lahore, soliciting that a large number of copies should be sent to the Society; and that, finally, not obtaining them, he had addressed the Lieutenant-Governor himself. The Lieutenant-Governor, a few days ago, forwarded twelve copies of the address and his reply, and the memorandum which the Secretary had just read to the meeting; and the following extract from his letter will satisfy the meeting, that the delay in placing this document within their reach, and in bringing forward this resolution, was not attributable to any want of zeal in the cause Mr. McLeod had so ably advocated. Here Major Lees read an extract from a private

letter from Mr. McLeod, stating that the delay originated in the first translation of the address made being imperfect, and defective printing arrangements.

Major Lees said that he thought it would be travelling out of our way to notice the subject from an educational stand-point. That was a view of the question which, in his opinion, did not concern the Society. The Government of India were responsible for the education of the people of the country; and no doubt they were fully competent to deal with any points of difference that might arise in discussions regarding this important subject. They were undoubtedly the best judges of what were the proper *media*, through which education should be given to the natives of India, and whatever *media* they should decide upon adopting, it was no business of this Society or its members, to express any opinion on their suitability, or otherwise, for the purposes of attaining the object in view.

There was a point of view, however, in which he conceived that the encouragement of oriental Shasters pre-eminently concerned this Society—their bearing on historical, archæological, and philological enquiries; to render which of value, required of the enquirer an accurate and critical knowledge of the oriental classical languages. \* It was to these enquiries that this Society owed its foundation; it was these enquiries that first created a desire for the knowledge of oriental literature; and it was in this Society, and within these walls, that, when in 1835, the Government of India showed such hostility to the cultivation of the languages and literature of the East, as to direct that all support and encouragement should be withdrawn from them, so noble a stand was made against their policy in this respect, by Macnaghten, the two Prinseps, Sir E. Ryan, and other of its most distinguished members. Nor were the Government satisfied with legislating for the future. They went further, and directed that the printing of the long list of oriental works, which the Committee of Education had at the time in the Press, many of which were half, and some almost entirely completed, should be discontinued. He held in his hand a list of those works, thus consigned to sudden destruction, a few of which he would read. The first work on that list was the *Mahábhárata*, the Iliad of Indian literature; the second was the *Rájatarangini*, that work to which per-

haps of all others we were indebted for the most accurate account of the history of the earliest period of the North of India. Lower down in the list came the *Fatawa Alamgiri*, an Indian work on Mahomedan law and precedents, of such singular merit and such high reputation throughout every part of the East where the Mahomedan religion prevailed, that, some years ago, when travelling through Egypt, he was asked by the Shaikh-ul-Islam for a copy, as the most valuable gift he could bestow on him. The Hon'ble Justice Campbell no doubt was aware of the rare value of this noble work. Then follows the *Máya*, another Mahomedan law book, a commentary on the *Kifáyah* and the great Mahomedan authority in India, the *Hedáyah*, the *Rámáyana*, the *Surya Siddhánta*, and many other equally important works on Law, Rhetoric, and Logic. All these valuable works, it was the desire of the Government of India of the day, to consign to destruction; an act, to use the words of our most distinguished Secretary, James Prinsep, "not far out-done by the destruction of the Alexandrine library itself." Such was the opinion of this Society in those days; and many members of the Society in these days will perhaps hear with surprise, that these valuable works were considered "waste paper" by the Government of India. On the fiat for their destruction having gone forth, the Society at once memorialized the Government to prefer their humble prayer to the Home Government for a special grant to be appropriated exclusively to the support of oriental literature; they further asked to be permitted to continue the printing of the works which had been stopped, soliciting some pecuniary grant to aid them in carrying out the undertaking. But the Government of India declined to solicit any special aid from the Court for the promotion of the object the Society had in view; and their reply on this and the other points is so remarkable that I will read it to the meeting. "The Government having resolved to discontinue, with some exceptions, the printing of the projected editions of oriental works, a great portion of the limited Education Fund having hitherto been expended on similar publications, to little purpose but to accumulate stores of waste paper, cannot furnish pecuniary aid to the Society for the further printing of those works, but will gladly make over the parts already printed either to the Asiatic Society, or to any other Society or individuals, who may be disposed to complete the publica-

tion at their own expense." The Society did not, however, allow the matter to rest ; but memorialized the Court of Directors on the subject ; and bringing all the influence, both official and private, it could command, to the support of the cause it so earnestly and so ably advocated, succeeded finally in obtaining that grant of Rs. 500 a month which has been mainly instrumental in enabling it to print that large series of very valuable oriental works, which have been published in the *Bibliotheca Indica*. Indeed so faithfully has the Society discharged its trust to the oriental world in this respect, that it was remarked in a late Annual Report of the *Société Asiatique*, that never was a grant for similar purposes more admirably administered.

"This Society has ever been the faithful and solitary guardian of oriental literature and oriental studies in India, and had it not been for its existence, it is difficult to say to what extent they would have been neglected. It was the cradle, I may say, of all the knowledge which the West of late years has obtained from the East ; for it is to the early efforts of its members, that the oriental languages owe the important position they have now attained in Europe. It is since the study of the Sanskrit language has been developed, that language itself has attained to the dignity of science, and while such value is attributed to the oriental classics in the West—while scholars pursue their study with such enthusiasm and such success, it is melancholy to observe the decay of oriental learning in its natural home, proceeding so steadily and so surely that there is some fear that soon we may look for an oriental scholar, European or Native, and look in vain. Most of us sitting round this table are Government servants, but we do not sit here as such, but in a higher capacity. We are here, rather, cautiously to watch its action in all matters connected with those high objects we have in view, and respectfully to express our opinions on their effects, as they appear to us to be injurious, or the contrary, to the progress of ancient literature and science. It is notorious that the Government of Great Britain does least of any of the great Governments of Europe for the direct encouragement of science. Almost everything that is done in England for the advancement of science, is accomplished by private Societies—Societies such as that, which we here represent. When

Government there, can be brought to move or to aid in any movement having for its object the attainment of a scientific end, its cooperation or assistance is almost invariably obtained through the pressure of some of those numerous Societies which are the pride of our country; and it is no cause for wonder, if such is the case in England, that the same rule should hold good in this country, and that we should find it necessary occasionally to remind the Government of India of the duties it owes to the important interests we hold in our keeping."

In conclusion, he trusted that he had made it clear to the meeting, how intimate was the connection of this Society with the movement that was now taking place in the Punjab, and how deep an interest it had in its success. He gave it as his opinion that the neglect of oriental studies in India had now reached the culminating point, and that therefore it was incumbent on this Society to give to the new movement its most cordial and most hearty support.

Mr. Campbell said—"I entirely concur in thinking that this Society cannot take upon itself to express, as a body, any opinion on questions of a properly Educational and Departmental character, and on that account I have somewhat regretted that, going beyond the address, which is the subject of the motion, other papers raising such questions should have been read. I would also especially deprecate our saying or doing anything which should seem to take us back to the old divisions of Anglicists and Orientalists. I have felt that caution is necessary in regard to one or two of Mr. Macleod's expressions which seem to point that way, the more so as the learned mover of the proposition before us also used some such expressions. While admitting that there is great force in much that has been said by Major Lees, I can in no way assent to those parts of his observations, which would appear to make us partizans in those ancient and almost forgotten battles of the year 1835. As regards all that then passed, I would say, 'Let the dead bury their dead.' Even supposing that the Government of those days were the rude and barbarous Goths that Major Lees represents them to be, (the name of the chief offender being, it appears, that of Macaulay), he has also told us that the work of Oriental Publications has not been altogether neglected. Barbarians as they were, the Government made a pecuniary grant for the pur-

pose to those better qualified than themselves, viz. to this Society, which has used it with that excellent effect which Major Lees has so well described. I would have it then to be distinctly understood that we neither take the part of the Orientalists against the Anglicists, nor make the praise of one Governor the occasion of blaming any other Governors living or dead. I think that we should confine ourselves strictly to the compass of the resolution before us, viz. to express in general terms our thanks to Mr. Macleod for promoting by his address the study of Oriental Literature; having regard not to particular expressions, but to the general tone and tenor of the address. I have now carefully read it, and thinking that, particular phrases apart, it is in the main admirable and excellent, I wish to give my humble support to the motion before the meeting. For myself I have no doubt that the Educational movement of 30 years ago has resulted in great positive good. I think that the study of English, and of all that English unlocks to the natives, has been attended with the greatest advantages both in an Educational and in a Political point of view. I believe that if Education had been left to the Sanscrit and Arabic Colleges, we should have been worlds behind our present point. No one in Calcutta can look round on the many educated and intelligent natives: no one can see the thorough, lively, and healthy interest taken by the native youth in many discussions in the English language, without being convinced that there has been an enormous gain. At the same time I think it cannot be denied that there are two sides to the picture—that there are certain drawbacks to the English system of education. In the first place, it is evident that the means available in Calcutta are not and probably for generations will not be available in most parts of the country. For many a long day, the Calcutta system cannot be general; and it is most undesirable that meantime the great body of the native youth should be shut out from European learning. Again, nothing can be more forcibly or better put, than the argument of the learned member **Baba Rajendra**, in support of his own view of the case. It seems clear that if a man must spend several years of his life in acquiring a foreign language, as the mere vehicle of knowledge, the field must be very much narrowed. So again as respects the Educational results of the present system, there is, I think, a good deal of truth in these

passages of Mr. Macleod's address, which I will read. He says, "Notwithstanding some brilliant exceptions, the great bulk of our scholars never attain more than a very superficial knowledge either of English or of the subjects they study in that language, while the mental training imparted is, as a general rule, of a purely imitative character, ill-calculated to raise the nation to habits of vigorous and independent thought:" and "The youths who are attracted to our schools and colleges are, for the most part, those who desire only to qualify themselves for public employ, or to acquire a colloquial knowledge of English, seldom or never including youths of those classes who are used to devote themselves wholly to the cause of learning." These observations very much tally with those made by another distinguished man and great thinker, at the late meeting of the Calcutta University, by the Vice-Chancellor, Mr. Maine. He also dwelt on the want of masculine vigour—on the *imitative* character of the present Native Education. He told the students that their acquisitions were too much an effort of memory, and too little an exercise of the reasoning faculties, and he recommended the greater cultivation of exact sciences, as distinguished from mere English literature. Now it seems evident, that the acquisition of a strange language must be in the main a severe and long continued effort of memory, and that there now stands in the way a great obstacle to the cultivation of those European sciences which Mr. Maine recommends. Such are the drawbacks as respects the natives. Another and, I think, no inconsiderable drawback of the present system is in its effects on Europeans. It seems to me to be indisputable that, during the last quarter of a century, there has not been among Europeans in India the same Oriental zeal and learning as formerly. We have made comparatively few such brilliant discoveries as illustrated the generation which commenced with Sir William Jones: we have even to a great degree neglected to work those rich mines of knowledge opened out by our predecessors, those splendid gold-bearing veins which we inherited from them. Major Lees has justly pointed out, that now more than ever their labours are bearing fruit in Europe. Now more than ever is it seen that the key to the history of language, to the history of man, has been found in India. But I lament to say that progress in India itself has not of late years kept pace with the vast importance of the subject. I have



lately had occasion to look over many papers, and I could not but be struck with the profuseness of Oriental knowledge to be found in earlier as compared with later years. To take one small example; I cannot believe that if, in the beginning of the century, we had been as intimate with Cashmir, as we have been during the last twenty years, we should have known so little of the language.

"The fact seems to be, that we have of late years to a great extent taken up this position, that the natives must come to us; we won't go to them. And having so entrenched ourselves, as it were, we have little in common with the natives most learned after their own fashion. As Mr. Macleod puts it, "The most cultivated minds amongst our race and yours have remained but too often widely apart, each being unable either to understand or to appreciate the other." In truth, I fear that in some respects the gulf between the two races is rather widening than narrowing. The old intercourse in native fashion becomes less. The men whose minds are saturated with English classics, justly feel that they are above intercourse on the old unequal footing of European ruler and Native ruled; and at the same time they have too seldom really acquired that substantially English tone of mind, that renders possible frank and cordial intercourse after the English fashion.

"Without then in any way putting it as opposed to English learning, I think we must all join in considering that every effort towards Oriental and vernacular learning, is in itself a good. So far from such learning being opposed to English learning, I believe that it is just the contrary. As Railways have not superseded roads and carriages, but, on the contrary, these latter are more than ever used as feeders to Railways, so also I believe that the use of the vernacular languages, as the medium of communicating European learning on a broader and more general scale than is now possible, and the contact of English with Oriental scholars in the use of the language of the latter, would create and whet an appetite for those larger stores of learning which English only can afford. It seems therefore to me that in the present stage of our progress, when so many natives have so good a knowledge of English, and the higher branches of education are so exclusively English, there is also much room for the encouragement of Oriental learning in two ways: first, by translating into the Vernacular books of European

learning, science, and general information, to a very much greater extent than has yet been done; and secondly, by renewed efforts on the part of men of European learning in India to acquire both the Vernacular and the learned languages of the East, to bring themselves into contact with the most learned and intelligent men of Oriental education, and with their aid to work out the stores of knowledge and the passages in the history of mankind which lie ready to the hand of the eager seekers.

"In this view then, taking Mr. Macleod's address as a whole, I think that we properly owe him warm thanks for his encouragement of Vernacular education and Oriental literature, and may without fear commit ourselves to, as it were, an abstract proposition that these objects are in themselves excellent, without in any way pledging ourselves to anything opposed to any other system or to any educational details. I shall vote for the resolution before the meeting."

The Chairman said that in 1835 there had been two parties, Anglicists and Orientalists, in the great Educational discussion of the day. Mr. McLeod was one of the latter party, but nevertheless those who supported this resolution, would not thereby pledge themselves to any partisan views. The resolution merely recognised the encouragement given Mr. McLeod to the study of oriental languages, and such encouragement it was the duty of our Society also to give. We did not by this Resolution bind ourselves to adopt all the views of Mr. McLeod, but only so far as the terms of the Resolution specify. He would now put the Resolution to the vote.

The votes of the meeting being taken, the Chairman declared that the Resolution was carried unanimously.

Mr. Campbell then said that, though the motion had been carried, and he was somewhat out of order, perhaps the meeting would allow him to make one or two observations on a point which had escaped him. He had marked and read some passages in Mr. McLeod's address in which he very much coincided, but there was one more passage which he had marked, in respect to which he had the misfortune to differ from Mr. McLeod, and entertaining a somewhat strong opinion on the subject, he had wished to take the opportunity of saying so. Mr. McLeod said, "I would urge you to adhere to oriental models, whether in the designation of your Institution, the degrees

or honors they may confer, or the scientific terminology they may adopt, rather than unnecessarily import terms from European lands, which last appears to me to be as unsuitable here as would be the modes of dress of other nations, if substituted for the more graceful garments of your own." Mr. Campbell went on - "This is the passage from which I particularly dissent. It seems to me that difference of language is in itself an evil, that if we cannot soon have a *lingua franca* common to all, we should at least study rather to approximate than to draw farther apart. It is, I think, a great advantage of the vernacular languages of India, that they have a singular facility for adopting and incorporating useful foreign words. Already many English words have been incorporated in the language of the country. It used to be said that if our rule ceased, we should leave nothing behind us but empty bottles. We should now leave many material monuments. But more than that, I believe that we should also leave in the language distinct traces of our presence. Well, in respect of scientific terminology, of all things, uniformity of nomenclature is the greatest possible object, and it appears to me that whenever we would introduce into the vernacular languages a scientific term not before known to those languages, it is infinitely more convenient to import the English or European term, than to invent some horrible new name, just as strange to natives, and quite unintelligible to Europeans. When a word existing in the vernacular is well known, and correctly expresses the required meaning, by all means retain it : but when there is no such word, to coin one by the use of complex Sanscrit compounds and Arabic derivatives, seems to me to be an affectation of Oriental purism at the expense of practical utility, and one, I may add, attended with no grace whatever, but with the most crack-jaw results."

Major Lees said that at this late hour of the evening he was unwilling to prolong the discussion, and that as he had opened it, perhaps he might be permitted also to close it. It had been his desire, as he before said, to remove the discussion altogether from the arena of educational policy, for reasons before stated, and because he was aware that, as regards the educational question, there was a good deal of party feeling ; but there ought not to be, and there could not be any party feeling regarding this question from the stand-point from

which he viewed it—its bearing on the advancement of literature and science. He had employed no ingenuity in the remarks he had already addressed to the meeting, his object being simply to place before the meeting, as clearly as he could, the position this Society had previously occupied with reference to the question that had come under discussion, and the interest they had in supporting to the utmost of their power the new impulse which was about to be given to the cultivation and study of the Oriental classical languages in the Punjab. As to the Educational views of the Lieutenant-Governor of the Punjab, they had better not discuss them here, they were not involved in the Resolution before the meeting, and they were foreign to the business of this Society. Mr. Justice Campbell however, he said, had fallen into error, in saying that if the Government of India had discontinued the publication of Oriental works, it had done better, it had appropriated a handsome grant for the purpose, to be administered by the most competent body to undertake this work. The Government of India had done nothing of the kind. The pecuniary aid which had been granted for the special purpose of publishing Oriental works had been obtained by the persevering exertions of this Society, not through any aid or support it received from the Government in this country, but in spite of its opposition.

The Chairman thought that such a point as that mooted by Mr. Campbell was quite within the province of our Society to decide. This Society stands in a position somewhat analogous to that of the French Academy. It is the one body in India competent, as embracing a knowledge of the requirements of science, together with a knowledge of the genius of the oriental languages, to give an opinion which cannot fail to carry weight in all quarters. The Society has no immediate connexion with education, but few educationalists would set themselves in opposition to a view expressed by the Society on such a point as this. For himself, Mr. Heeley continued, he did profess to have studied the question. He knew only that such as the late Dr. Ballantyne, had thought it quite possible to form a technical language from purely Sanscrit roots, which should be equally expressive with the technical language derived from Greek and Latin roots which prevailed in Europe, and would be much more in accordance with the spirit of the people. The study, in the ver-

naricular, of a science of which all the terms are foreign, would be almost an impossibility. He concluded by inviting Mr. Campbell to draw up a proposition in terms, for submission to the Society's next meeting.

Mr. Norman doubted whether it was desirable that the Society should be asked to commit itself to the expression of an opinion on two subjects brought forward this evening. The first touches a point of great difficulty, viz. whether learning is better conveyed to the natives of this country in English or the vernacular. All scientific works are written in European languages, and it is by the medium of English alone, that such subjects as those of modern science can at present be studied. In the vernacular, there is indeed a certain amount of imaginative literature, grammar, and metaphysics, which may therefore be imparted without requiring a knowledge of English, but that is almost all: and it is a great question, whether the advantage of opening to the Native the vast storehouses of European science does not infinitely outweigh the disadvantage of his having to acquire the rudiments of his knowledge in a strange tongue. The second discussion is on a point on which no opinion of the Society can be of much value, because it can have but little effect on the result. He quite agreed with Mr. Campbell that a scientific terminology should be uniform, indeed as far possible a universal language; but were any man of mark, as a man of science, to arise among the natives, he would not be likely to obey the dictation, or even the lead of the Society; but would probably adopt a terminology of his own, and his teaching would be followed by his countrymen quite irrespective of any resolutions of this Society.

Mr. Campbell said that he had not intended any motion on this subject, but he entirely agreed with Mr. Heeley, in thinking that the questions of the terminology was one eminently within the province of this Society. "It may be a matter of comparatively little importance, from what language a technology is taken, but it is of the greatest importance that it should be uniform. You may have half a dozen equally good terms for the same thing, but if all are used, great confusion results. What is wanted, is some authority to decide in favour of one or the other. Now in India, what body is so competent to decide on a matter of this kind as the Asiatic Society? What

body would carry one tithe so much weight? We assume no despotic authority. It may be, that some Hindoo or Mahomedan greater than Linnæus may start up and impose on us a Sanscrit or Arabic technology which may scatter ours to the winds; but meantime I believe that the authority of the Asiatic Society would carry the very greatest weight, and would probably be respected in most public and private Institutions. The matter is one of very great importance, and it must be remembered that Mr. McLeod has distinctly, by the letter which has been read to me, asked our advice. On the purely Educational questions we cannot take upon ourselves to give advice; we have only done what we can, by expressing our admiration of Mr. McLeod's efforts in the cause of learning. But as respects the question of a scientific terminology, I think that we may properly respond to Mr. McLeod's invitation, by advising him one way or other. So strongly do I feel on the subject, that I beg to give notice of the following Resolutions to be moved at the next meeting. "That while the members of this Society regret that they feel themselves precluded from expressing an opinion on the purely Educational matters on which Mr. McLeod has done them the honor to consult them, they would venture to express the opinion that it is desirable to adopt for general use, the European scientific terms, for which equivalents are not found in the vernacular languages."

The Council reported that the following gentlemen were elected Trustees for the Indian Museum.

Dr. S. B. Partridge; Dr. J. Fayrer; W. S. Atkinson, Esq.; H. F. Blanford, Esq.; for the Society.

The Council reported that A. Grote, Esq. has been elected a member of the Library Committee.

The Council also reported that Baboo Protap Chunder Ghoshe is appointed Assistant Secretary *vice* Baboo Lalgopal Dutt, who has resigned.

The following letter was read—

From G. Fergusson, Esq., containing some remarks on the tower at Boodh Gya.

"Since I last wrote you, I have looked carefully into the evidence about the age of the Tower at Boodh Gya, and see no reason to doubt the evidence of the inscription given (J. A. S. B., Vol. III. p. 214,)

that the building *we now see* was erected in the first year of the 14th century. From its architecture, as shewn in the photograph you have sent me, I would have been inclined to make it even more modern; and the evidence of the "arches," as explained by Mr. Horne, is to my mind quite conclusive that it was erected long after the Mahomedan conquest. Had it been built by true Hindoos, they would not have been found there even then, but the Burmese never hated the arch so cordially as the true Hindoo. My impression of its history would be that in Asoka's time, or between that and the Christian era, the Bo tree was surrounded by a rail of the Sanchee type. At some subsequent period a "stupa" was erected, probably of a tower form; it may be by Amara, and the Lehras may be of his time; but I feel nearly quite certain that the arches were inserted and the tower took its present form in the beginning of the 14th century."

The following communications received were announced:—

1. From the Hon'ble G. Campbell "Ethnology of India" in 6 parts."
  2. From Baboo Gopee Nauth Sen, An abstract of the hourly meteorological observations made in February last.
  3. From Major B. Ford. "Report of Committee ordered by the Superintendent of Port Blair to proceed to Barren Islands, to enquire into the practicability of thence supplying the settlement of Port Blair with fodder, as well as to note any other product of the island that may be of scientific interest, or of benefit to the settlement."
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**ABSTRACT STATEMENT**  
**OF**  
**RECEIPTS AND DISBURSEMENTS**  
**OF THE**  
**ASIATIC SOCIETY,**  
**FOR**  
**THE YEAR 1865.**



**STATEMENT**  
*Abstract of the Cash Account*

RECEIPTS.				1865.	1864.
<b>ADMISSION FEES.</b>					
Received from New Members,...	Rs.	928	0 0	928 0 0	1,600 0 0
<b>CONTRIBUTIONS.</b>					
Received from Members, ...	...	9,445	0 0	9,445 0 0	8,389 10 0
<b>JOURNAL.</b>					
Sale proceeds of, and Subscription to the Journal of the Asiatic Society,		749	8 0		
Refund of Postage Stamps, ...	...	6	0 0		
Ditto of Freight, ...	...	2	9 0	758 1 0	610 4 0
<b>LIBRARY.</b>					
Sale proceeds of books, ...	...	162	12 0		
Refund of Freight, ...	...	29	4 0		
Ditto of Postage Stamps, ...	...	1	15 0	193 15 0	300 4 0
<b>MUSEUM.</b>					
Received from the General Treasury at 500 Rs. per month, ...	...	6,000	0 0		
Savings of salary, ...	...	87	13 0	6,037 13 0	6,515 11 6
<b>VESTED FUND.</b>					
Interest on Government Securities received from the Bank of Bengal, ...	...	337	8 0	337 8 0	344 12 11
<b>SECRETARY'S OFFICE.</b>					
Sale of Postage Stamps, ...	...	2	4 0		
Refund of Postage Stamps, ...	...	23	13 0		
Ditto of Packing Charges, ...	...	0	8 0		
Ditto of Bagghy Expenses, ...	...	5	7 6		
Saving of salary, ...	...	2	6 6	34 7 0	16 0 9
<b>GENERAL ESTABLISHMENT.</b>					
Saving of salary, ...	...	1	14 9	1 14 9	4 0 0
<b>COIN FUND.</b>					
Sale proceeds of Gold and Silver Coins, ...	...	236	15 6	236 15 6	33 0 0
<b>A. C. L. CARLYLE, Esq.</b>					
Refund of the amount advanced him on the Contingent Expenses for the Museum, ...	...	117	11 6	117 11 6	280 4 9
<b>BABU POORNOCHUNDER BYSACK.</b>					
Refund in part of the amount advanced for the expenditure of the Museum, ...	...	762	15 3	762 15 3	
Carried over,...				18,854	5 0

No. 1.

*of the Asiatic Society, for 1865.***DISBURSEMENTS.**

1865.

1864.

**CONTRIBUTIONS.**

Refunded to Messrs. Colvin, Cowie and  
Co. on account of Major J. L. Sher-  
will's Subscription for 3rd quarter  
1864, received in advance, ... Rs.

6 0 0

6 0 0

**JOURNAL.**

Printing Charges, ... 1,640 2 0  
Drawing plans, &c. for the Journal  
and Proceedings, ... 559 3 0  
Engraving diagrams, &c. for do. do., ... 576 8 0  
Coloring diagrams for the Journal, ... 3 10 3  
Freight and Banghy expenses, ... 232 1 6  
Purchase of Stamps, ... 130 0 0  
Packing Charges, ... 33 14 0  
Commission on Sale of books, ... 23 10 6  
Purchase of printing paper for the  
Journal and Proceedings, ... 59 0 0  
Ditto for a Copy of Journal, ... 1 8 0  
Ditto for three blank books, ... 8 4 0  
Petty Charges, ... 4 7 0

3,272 4 3 2,261 3 0

**LIBRARY.**

Salary of the Librarian, ... 810 0 0  
Establishment, ... 130 0 0  
Purchase of Books, ... 255 0 9  
Binding Books and Mounting Maps, &c. 398 2 0  
Extra writer, ... 118 0 0  
Salary for preparing a revised Ca-  
talogue of the Library, ... 335 0 0  
Purchase of Furniture, ... 383 0 6  
Printing Charges, ... 10 0 0  
Purchase of a blank book, ... 2 0 0  
Freight, ... 24 11 3  
Landing Charges, ... 8 4 6  
Bearing Postage, ... 1 8 0  
Commission on Sale of Books, ... 12 10 3  
Petty Charges, ... 28 1 3

2,576 9 6 1,397 0 8

**MUSEUM,**

Salary of the Curator, ... 250 0 0  
Ditto of the Sub-Curator, ... 1,200 0 0  
Establishment, ... 588 0 0  
Salary of Taxidermists, ... 978 9 9  
Contingent charges, ... 2,259 1 0  
Furnitures, Stands, &c. ... 564 13 0  
Purchase of blank books, ... 20 0 0  
Advertising Charges, ... 7 8 0  
Freight, ... 18 3 3  
Photographic Drawings, ... 69 0 0

Carried over, ... 5,953 11 0 5,854 13 9

## RECEIPTS.

Brought over,...Rs. 18,854 5 0

## POTITPARUN MISTRY.

Refund of the amount advanced him on the

9th December last, ... ..	50 0 0		
	<u>50 0 0</u>	50 0 0	50 0 0

## CAPT. J. JOHNSTON.

Received from him in deposit, ... ..	0 6 0		
	<u>0 6 0</u>	0 6 0	

## A. M. VERCHERE, Esq.

Refund in part of the amount paid on the 31st May, 1864, ... ..	1 0 0		
	<u>1 0 0</u>	1 0 0	

## E. T. ATKINSON, Esq.

Refund of the amount paid on the 31st March last, ... ..	3 8 0		
	<u>3 8 0</u>	3 8 0	

## MAJOR J. G. GOWAN.

Received from him in Deposit, ... ..	10 0 0		
	<u>10 0 0</u>	10 0 0	

## LT. J. WATERHOUSE.

Refund of the amount paid 21st June last, ... ..	1 2 0		
	<u>1 2 0</u>	1 2 0	

## GOVERNMENT N. W. PROVINCES.

Refund in part of the freight paid for sending Journal Asiatic Society, ... ..	9 0 0		
	<u>9 0 0</u>	9 0 0	

## HURROMOHUN SIRCAR.

Refund of the amount paid on the 16th May last, ... ..	100 0 0		
	<u>100 0 0</u>	100 0 0	

## SHEIKH GULLO TAXIDERMIST.

Refund of the amount paid on the 13th September last, ... ..	20 0 0		
	<u>20 0 0</u>	20 0 0	

## REV. JAFSCHKE.

Sale proceeds of a copy of Thibetan Grammar on his account, ... ..	1 0 0		
	<u>1 0 0</u>	1 0 0	

## BALANCE OF 1864.

In the Bank of Bengal, ... ..	1,304 5 6		
Cash in hand, ... ..	5 14 7		
	<u>1,310 0 1</u>	1,310 4 1	

Carried over, 20,360 9 1

## DISBURSEMENTS.

Brought over,...Rs. 5,955 11 0 5,854 13 9

Repairing Charges, ... ..	839	5	6						
Purchase of Postage Stamps, ...	10	0	0						
Ditto of 53 yards of Broad Cloth, ...	102	11	0						
Packing Charges, ... ..	8	0	0						
Income Tax on Curator's Salary, ...	52	8	0						
						6,468	3	6	6,307 8 3

## MUSEUM TRANSFER ACCOUNT.

Printing 125 Copies of the General									
Museum incorporation draft Act, ...	58	0	0						
						58	0	0	

## VESTED FUND.

Commission to the Bank of Bengal									
for drawing interest on the Govern-									
ment Securities, ... ..				0	13	6			
							0	13	6 7,063 4 4

## SECRETARY'S OFFICE.

General Establishment, ... ..	771	0	0						
Secretary's Office Establishment, ...	1,068	0	0						
Purchase of Postage Stamps, ... ..	140	5	0						
Ditto of blank books, ... ..	22	0	0						
Ditto of two Sheet Almanacs for									
1865-66, ... ..	2	0	0						
Ditto of Stationery, ... ..	164	3	0						
Printing and Engraving Charges, ...	162	0	0						
Bearing Postage, ... ..	6	11	9						
Petty Charges, ... ..	10	9	6						
						2,349	13	3	2,321 1 9

## COIN FUND.

Purchase of Coins, ... ..	386	11							
						386	11	9	406 2 11

## BUILDING.

Assessment, ... ..	480	0	0						
Ditto for lighting, ... ..	96	0	0						
Repairing, ... ..	1,764	7	6						
						2,340	7	6	816 11 3

## MISCELLANEOUS.

Advertising Charges, ... ..	4	12	0						
Meeting Charges, ... ..	75	7	0						
Salary of a Mally, ... ..	57	0	0						
Fee to the Bank of Bengal for Stamp-									
ing Cheques, ... ..	3	2	0						
Purchase of Receipt Stamps, ..	7	13	0						
Repairing old rattan mats, ... ..	40	8	6						
French Polishing a large Telescope-									
Table in the Meeting room, ...	45	0	0						
Petty Charges, ... ..	32	6	9						
						265	12	3	387 7 6

## BABU POORNOCHUNDER BYSACK.

Paid him as advance on the Con-									
tingent expenses for the Museum, .	1,045	0	0						
						1,045	0	0	

Carried over,... 18,769 11 6

## RECEIPTS.

Brought over, ..Rs. 20,360 9 1

Carried over, . 20,360 9 1

## DISBURSEMENTS.

Brought over,. Rs. 18,769 11 6

E. B. COWELL, Esq.

Paid Freight for sending a parcel of Bib. Indica to Messrs. Williams and Norgate, ... ..	5 0 0	5 0 0	27 0 0
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E. T. ATKINSON, Esq.

Paid Banghy Expenses for sending a box of Books with Packing Charges,	3 8 0	3 8 0	
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CAPT. J. JOHNSTON.

Paid back his deposit of the 4th March last, ... ..	0 6 0	0 6 0	
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LIEUT. J. WATERHOUSE.

Paid Copying Charges on three pages of Music, ... ..	1 2 0	1 2 0	
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GOVT. N. W. PROVINCES.

Paid Railway charge for sending Jour- nal and Proceedings to Allahabad, ..	16 5 0	16 5 0	5 6 0
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COL. R. SERACHEY.

Paid Freight for sending his books to Messrs. Williams & Norgate, London,	10 0 0	10 0 0	
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J. H. BATTEN, Esq.

Paid Railway freight for sending Li- brary Books, ... ..	2 9 0	2 9 0	
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MESSRS. WILLIAMS AND NORGATE.

Paid Mrs H. Piddington as per their draft £39-3-7, at 2s. $\frac{1}{4}$ d. per rupee,	385 12 0	385 12 0	991 7 6
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● MURRO MOHUN SIRCAR.

Paid him as advance for preparing three book cases, ... ..	100 0 0	100 0 0	
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CAPT. T. HUTTON.

Paid Banghy Expenses, &c. for sending a parcel of Insects to Mussoorie, ...	3 0 0	3 0 0	
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CAPT. H. H. G. AUSTEN.

Paid Banghy Expenses, &c. for send- ing Library Books to Dehra Doon, ...	3 14 0	3 14 0	
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LIEUTENANT A. PULLAN.

Paid Boaring Banghy Expenses, on a parcel of Coins sent by him to the Society, ... ..	9 0 0	9 0 0	
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Carried over,... 19,310 3 6

## RECEIPTS.

Brought over, ..Rs. 20,360 9 1

Rs. ...	<u>... 20,360 9 1</u>
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Examined,

PROTAP CHUNDER GHOSHIE,

*Offy. Assistant Secretary.*

*Asiatic Society's Rooms,  
The 31st December, 1865.*

## DISBURSEMENTS.

Brought over,...Rs. 19,310 3 6

A. G. WALKER, Esq.

Paid insufficient Postage on a parcel  
of books, ... ..

7 0 0

7 0 0

SHAIK GULLO TAXIDERMIST.

Paid him his Salary in advance, ...

20 0 0

20 0 0

SHAIK HARRY TAXIDERMIST.

Paid him his Salary in advance, ...

103 0 0

103 0 0

19,440 3 6

BALANCE.

In the Bank of Bengal, ...

817 3 0

Cash in hand, ... ..

103 2 7

920 5 7

Rs. ... 20,360 9 1

Audited,

H. F. BLANFORD,

. RAJENDRA LALA MITRA.



**STATEMENT**  
*Abstract of the Oriental*

RECEIPTS.				1865.	1864.
<b>ORIENTAL PUBLICATIONS.</b>					
Received by Sale of Bibliotheca Indica, ... ..	Rs.	1,401	13	9	
Ditto by Subscription to ditto, ... ..		126	0	0	
Ditto by Sale of White Yajurveda, ..		38	0	0	
Refund of Postage Stamps, ... ..		7	8	0	
Ditto of Packing Charges, ... ..		0	4	0	
				1,573	9 9 2,210 8 6
<b>GOVERNMENT ALLOWANCE.</b>					
Received from the General Treasury at 500 Rs. per month, ... ..		6,000	0	0	
				6,000	0 0 6,000 0 0
<b>VESTED FUND.</b>					
Received Interest on the Government Securities from the Bank of Bengal, ... ..		412	8	0	
				412	8 0 452 4 9
<b>CUSTODY OF ORIENTAL WORKS.</b>					
Savings of Salary, ... ..		10	7	9	
				10	7 9 1 14 0
<b>REV. F. KITTEL.</b>					
Received from him in Deposit, ... ..		12	4	0	
				12	4 0
<b>VELANANDOO B. SOORIAH.</b>					
Received from him in Deposit, ... ..		1	15	6	
				1	15 6
<b>REV. T. FOULKES.</b>					
Refund of Freight, ... ..		2	8	9	
				2	8 9
<b>DR. M. HAUG.</b>					
Received from him as advance for sending Bibliotheca Indica, ... ..		10	0	0	
				10	0 0
<b>R. T. H. GRIFFITH, Esq.</b>					
Refund of Freight, ... ..		3	1	0	
				3	1 0
<b>PANDIT CHHOTARAM TIWARI.</b>					
Received from him in Deposit, ... ..		6	0	6	
				6	0 6
Balance of 1864, ... ..		1,424	10	2	
Cash in hand, ... ..		13	9	8	
				1,438	3 10

Carried over, .. 9,500 11 1

No. 2.

*Fund for 1865.*

## DISBURSEMENTS.

				1865.	1864.
<b>ORIENTAL PUBLICATIONS.</b>					
Commission on the Sale of Books, Rs.	158	1	0		
Freight and Bangly, &c., ... ..	190	14	0		
Packing Charges, ... ..	48	8	6		
Purchase of Postage and Receipt					
Stamps, ... ..	22	9	6		
Printing Charges, ... ..	25	0	0		
Petty Charges, ... ..	11	6	3		
				456	7 3 382 0 0
<b>VESTED FUND.</b>					
Commission to the Bank of Bengal for					
drawing interest on Government					
Securities, ... ..	1	1	8		
				1	1 8 9,255 0 8
<b>CUSTODY OF ORIENTAL WORKS.</b>					
Salary of the Librarian, ... ..	360	0	0		
Establishment, ... ..	216	0	0		
Book Binding, ... ..	119	8	0		
Fee paid to the Bank of Bengal for					
Stamping Cheques, ... ..	1	9	0		
Purchase of Furniture, ... ..	31	15	6		
Petty Charges, ... ..	17	12	9		
				776	13 3 901 0 6
<b>LIBRARY.</b>					
Purchase of Books, ... ..	205	0	0		
				205	0 0 23 0 0
<b>ASWALAYANA SRAUTA SUPRA.</b>					
Editing Charges, ... ..	480	0	0		
Printing ditto, ... ..	896	0	0		
				1,376	0 0 288 0 0
<b>LALITA VISTAR.</b>					
Editing Charges, ... ..	618	0	0		
				618	0 0
<b>TARIKH-I-BADOUNI.</b>					
Editing and Printing Charges, ...	394	0	0		
				394	0 0 884 0 0
<b>BIOGRAPHICAL DICTIONARY.</b>					
Editing and Printing Charges, ...	760	0	0		
				760	0 0 900 0 0
<b>NYAYA DARSANA.</b>					
Editing Charges, ... ..	308	0	0		
Printing ditto, ... ..	448	0	0		
				756	0 0
<b>TAITTIRYA ARANYAKA.</b>					
Editing Charges, ... ..	288	0	0		
Printing ditto, ... ..	224	0	0		
				512	0 0 144 0 0
<b>BRIHATSANHITA.</b>					
Printing Charges, ... ..	902	0	0		
				902	0 0 228 0 0
Carried over, ...				6,757	6 2

## RECEIPTS.

Brought over, ..Rs. 9,500 41 1

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Rs. ...	...	9,500	41	1
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Examined, ...

PROTAP CHUNDER GHOSHE,

Offy. Assistant Secretary.

*Asiatic Society's Rooms,*  
*The 31st December, 1865.*

## DISBURSEMENTS.

				Brought over, Rs. 6,757 6 2			
KAMANDAKIYA NITISARA.							
Printing Charges,	...	...	224 0 0	224 0 0	96 0 0		
TAITTIRYA BRAHMANA.							
Editing Charges,	...	...	144 0 0	144 0 0	368 0 0		
PRAKRIT GRAMMAR.							
Editing Charges,	...	...	288 0 0	288 0 0			
IQBAL NAMEH.							
Editing and Printing Charges,	...	...	956 8 0	956 8 0			
WIS-O-RAMIN.							
Editing and Printing Charges,	...	...	96 8 0	96 8 0	1,168 0 0		
NARADA PANCHARATTRA.							
Printing Charges,	...	...	232 8 0	232 8 0			
MIMANSA DARSAHA.							
Printing Charges,	...	...	237 0 0	237 0 0	349 0 0		
AYEEN-I-AKBARI.							
Charges for bringing Manuscript of do.,	...	...	18 5 0	18 5 0			
COPYING MSS.							
Copying Charges,	...	...	6 8 0	6 8 0	14 10 6		
R. T. H. GRIFFITH, ESQ.							
Paid freight for sending a parcel of							
Bibliotheca Indica,	...	...	3 1 0	3 1 0	3 3 0		
PUNDIT CHHOTARAM TIWARI.							
Paid him in part on his deposit,	...	...	2 8 0	2 8 0			
DR. M. HAUGH.							
The value of Bibliotheca Indica sent to							
him,	...	...	9 6 0	9 6 0			
BALANCE.							
In the Bank of Bengal,	...	...	519 8 6				
Cash in hand,	...	...	5 8 5	525 0 11			
Rs. ...				9,500 11 1			

Audited,

H. F. BLANFORD,  
RAJENDRA LALA MITRA.

# STATEMENT No. 3.

*Shewing the Assets and Liabilities of the Asiatic Society at the close of 1865.*

ASSETS.			LIABILITIES.		
CASE.					
	1865.	1864.		1865.	1864.
In the Bank of Bengal,	Rs. 817 3 0	1,304 5 6	Hon'ble Sir J. W. Colville, Kt. for amount deposit on his account, ..	Rs. 276 8 0	276 8 0
Cash in hand, ..	103 2 7	5 14 7	J. W. Laidley, Esq. for ditto ditto, ..	418 7 4	418 7 4
Government Securities, ..	6,500 0 0	6,500 0 0	Salary Establishment and Contingent Charges, ..	1,000 0 0	755 0 0
Rs. ...	7,420 5 7	7,810 4 1	Subscription to the Oriental Translation Fund, ..	630 0 0	525 0 0
OUTSTANDING.			Printing Journal and Proceedings, &c. about, ..	3,559 7 0	1,260 8 0
Contributions, ..	5,793 7 11	5,811 14 11	Bird Catalogue Binding, ..	42 4 0	42 4 0
Admission fees, ..	480 0 0	416 0 0	Messrs. Williams and Norgate for Books supplied as per their account up to 30th June, 1865, ..	510 0 0	
Library sale of Books, ..	537 10 9	415 2 0	Ditto probable calculated amount for Books supplied from 1st July to 31st Dec. ..	500 0 0	
Journal Subscription, ..	568 4 0	538 2 0	Messrs. Higgs and Halder for repairing Society's Premises, ..	1,010 0 0	
Ditto sale of, ..	107 10 3	284 14 3	Rs. ...	1,844 0 0	
Government allowance for Dec., 1865,	500 0 0	500 0 0		8,780 10 4	3,277 11 4
Rs. ...	7,987 0 11	7,996 1 2			

Examined, **PROTAP CHUNDER GHOSHE,** Audited, **H. F. BLANFORD,**  
*Offg. Assistant Secretary.* **RAJENDRA LALA MITRA.**

**Asiatic Society's Rooms,**  
*The 31st December, 1865.*

*Shewing the Assets and Liabilities of the Oriental Publication Fund at the close of 1865.*

*Asiatic Society's Rooms,  
The 31st December, 1865.*

examined,  
 PROTAP CHUNDER GHOSH,  
 Audited,  
 H. F. BLANFORD,  
*Offg. Assistant Secretary.*  
 RAJENDRA LALA MITRA.



PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR JULY, 1866.



The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday the 4th Instant.

A. Grote, Esq., senior member, in the Chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced—

1. From Major B. Foid, a box of mineral and vegetable specimens from Barren Island; the paper announced at the last meeting accompanied the donation.

2. From V. J. Carey, Esq. a sketch of a perforated stone found on a "Chaboutra" at Jubbulpore. Plate I.

The following letter accompanied the donation.

*"Jubbulpore, 4th June, 1866.*

"DEAR SIR,

"Since my writing to you in January, I have found four or five 'Celts' of the smooth later stone age, and also two of these perforated stones. A sketch of one I send you, natural size. I found these on a 'Chautra' or Chaboutra, on which they place stones for the worship of 'Mahádeo.' On these 'Chautras' I find 'Celts,' and about this part of the country Celts are not found except on them, or may be a chance one in a temple.

"Several of these perforated stones have been found by different members of our staff along the line. Each have their own interpretation. I fancy they are mauls or hammers. I had one as small as



this.\* Kindly let me have your idea of what they were meant for and oblige

\* "Yours faithfully,

(Sd.) "V. JAMES CAREY."

Mr. Blanford said that the sketches were those of stones similar in character to specimens that had been found accompanying the relics of the later stone age in Europe; and also those of the bronze age; but the latter were frequently of a different material, viz. earthenware. They were regarded by archaeologists as spindle-whorls, i. e. weights attached to a stick to give it sufficient rotatory inertia to spin fibres, whether for weaving or net-making. Some archaeologists thought that the earthenware specimens were also used as weights for nets. It was interesting to find these in India, as well as the flint hatchets of the smooth type. But it was much to be desired that the circumstances under which these relics occurred *in situ* could be ascertained. These early antiquities were, however, exciting much attention in Central India, and he hoped that before long some evidence on this head would be brought to light. He had strong hopes that the exertions of the Nagpore Society would facilitate this; Mr. Carnac, the Secretary, took much interest in these discoveries, and he believed that others besides that gentleman and Mr. Carey were giving their attention to them.

3. From Rájá Kálý Krishna Báhádoor, a copy of a "General list of native implements, &c. for the Paris Universal Exhibition for 1867."

4. From S. Jennings, Esq., a specimen of an *Aprosmictus scapularis* (King Parrot) of Australia.

5. From W. C. Taylor, Esq., C. S., a large collection of Insects, chiefly from Darjiling.

6. From D. Waldie, Esq. some pseudomorphs of Peroxide of Iron after Pyrites.

With reference to this presentation, the donor made the following remarks:—

"The mineral crystals presented to the Society are pseudomorphs resulting from the conversion of iron pyrites or bisulphide of iron into peroxide of iron, and are interesting from exhibiting the change in

\* Referring to a pen-and-ink sketch of a stone of the same form as that figured on Plate I. but measuring only 2 inches in diameter and  $\frac{1}{2}$  inch in thickness.

various stages of its progress. Simple oxidation would convert sulphide of iron into sulphate of iron, and the only way of accounting for the further change into peroxide is by the action of bicarbonate of lime, or even bicarbonate of magnesia, or of the alkalis in presence of excess of carbonic acid and water, by which the sulphuric acid is removed in combination with the earth or alkali. By such a process peroxide of iron would be left in combination with water. This is the explanation given by Bischof in his *Chemical Geology*, (Cav. Soc. Trans., Vol. III., p. 452), in which he cites observations corroborative of the theory, and also notices the observations of others (Ullmann and Sillem) in which red hematite or anhydrous peroxide was found completely or partially in place of brown hematite or the hydrated peroxide, giving it as his opinion that the production of red hematite takes place subsequently to that of hydrated peroxide, and not directly from iron pyrites.

“These crystals exemplify these changes. Some of them consist of peroxide of iron only, with some water and a little siliceous earth: one crystal gave 2.0 siliceous, 4.78 water, and the remainder peroxide of iron. As brown hematite contains 14.76, and another hydrate 10.36 p c. of water, the above is evidently a mixture of hydrated and anhydrous peroxide. Some of the crystals contain a few small bright specks of sulphide of iron, others a large hard nucleus of the same. One crystal when broken was observed to be partially hollow, and the matter in the centre was soft and of an ochry appearance, very probably in the state of subsulphate. They are in the state of well formed isolated cubical crystals. It would have been interesting to have known the particulars of their locality and probable origin, and application was made for these particulars, but without success. I only learned that they were found in India, on the surface of the ground.”

The following gentlemen, duly proposed and seconded at the last meeting, were balloted for, and elected as ordinary members.

A. Anderson, Esq.; M. H. Ormsby, Esq.; J. H. Mathews, Esq.

Letters from J. Strachey, Esq., C. S., J. M. Scott, Esq., J. C. Sarkies, Esq., Baboo Jodunauth Mookerjee and Kally Prosono Dutt, intimating their desire to withdraw from the Society, were recorded.

The following letter from E. Thomas, Esq. and notice of an address delivered by the writer at the Royal Asiatic Society, were read.

"10th May, 1866.

"MY DEAR GROTE,—I enclose you a slip report of a small lecture which I gave on the spur of the moment (in default of other papers) at the Royal Asiatic Society.

"The subject is one of considerable interest, and it is singular that all and every bit of evidence should tend to the same end. The result, however, is only exactly what we were fully prepared for, *i. e.* that the Aryans left their early homes long *after* the other nations of the world had achieved a large amount of civilization. The only point of peculiar interest to *us* Indians is the course of the Aryan alphabets downwards. I am quite clear about the Bactrian adaptation from the Phœnician, and am equally convinced of the originality of the conception of the Lât alphabet, which was *primarily* designed for Dravidian or Scythic forms of speech. I have been collecting proofs of this for some time past, and each fresh enquiry the more and more confirms my early impression! But I am anxious to learn all that can be said against my position, which I am, however, quite prepared to abandon on proof of error. If you can elicit any discussion on the point, it may enlighten us all! and your observations will reach England long before I shall be in a position to *print*, even if I do *write* anything beyond what I have already *said*!

E. B. THOMAS."

The following is the printed extract enclosed in Mr. Thomas's letter:—

"The following are the positions laid down by Mr. Thomas as the result of his palæographical investigations:—The Aryans invented no alphabet of their own for their special form of human speech, but were, in all their migrations, indebted to the nationality amid whom they settled for their instruction in the science of writing. 1. The *Persian Cuneiform* owed its origin to the Assyrian, and the Assyrian Cuneiform emanated from an antecedent Turánian symbolic character. 2. The *Greek* and *Latin* alphabets were manifestly derived from the Phœnician. 3. The *Bactrian* was adapted to its more precise functions by a re-construction and amplification of Phœnician models. 4. The *Devanâgarî* was appropriated to the expression of the Sanskrit language from the pre-existing Indian Pâli or *Lât* alphabet, which was obviously

originated to meet the requirements of Turánian (Drávidian) dialects. 5. The *Pehlvi* was the offspring of later and already modified Phœnician letters; and 6. The *Zend* was elaborated out of the limited elements of the Pehlvi writing, but by a totally different method from that followed in the adaptation of the Semitic Bactrian. Mr. Thomas then proceeded to advert to the single point open to discussion, involved under the fourth head, tracing the progress of the successive waves of Aryan immigration from the Oxus into the provinces of Ariana and the Hindú Kush, and the downward course of the Pastoral races from their first entry into the Punjáb, and the associate crude chants of the Vedic hymns, to the establishment of the cultivated Brahmanic institutions on the banks of the Sarasvatí, and the elaboration of Sanskrit grammar at Taxila,—connecting the advance of their literature with the simplified but extended alphabet they constructed in the Arianian provinces out of a very archaic type of Phœnician, and whose graphic efficiency was so singularly aided by the free use of birch bark. This alphabet continued in use as the official writing under the Greek and Indo-Scythian rulers of Northern India, until it was superseded by the superior fitness and capabilities of the local Páli, which is proved by Asoka's scattered inscriptions on rocks and monoliths (*Láts*) to have constituted the current writing of the continent of India in B.C. 250; while a similar, if not identical character is seen to have furnished the prototype of all the varying systems of writing employed by the different nationalities of India at large, from Sind to Ceylon, and spreading over Burmah, till the Indian Páli meets Chinese alphabets on their own soil in Annam. In conclusion, Mr. Thomas pointed out the importance of the discoveries of Norris and Caldwell, derived from completely independent sources, regarding the Scythic origin of the introductory Indian alphabets."

Mr. Campbell said he would gladly have left the honour of the Hindus in the hands of the learned Bábu opposite, but in default of any one more competent, he would make one or two observations. It appeared to him that the Nagaree character was very much adapted to the Sanscrit and Hindée languages. We found how different it was when we try to express these tongues in Roman or Persian characters. If then the Nagaree character was not invented for

Sanscrit, it must have been adapted for its use in a remarkable way. He did not feel competent to take upon himself to deny that the character may have been borrowed from others. But as respects the original inventors suggested by Mr. Thomas's theory, he felt inclined to protest against the loose way of using the terms 'Dravidian,' 'Turanian,' and 'Scythic,' as if synonymous. He was aware that Max Müller had classed two-thirds of the world under the broad designation of 'Turanian,' but he found that other great authorities objected to the classification as too sweeping, and as including in a common term several widely different families. Whoever may have first invented letters, he felt great difficulty in believing that the discovery was due to the Dravidian ancestors of the barbarous Gonds and Khonds, Dhangars and others, who, speaking ancient Dravidian tongues, were themselves to this day without a written language. On the whole subject, we were still very much in the dark. If he had himself a half-formed theory, it inclined to this: that if in fact the Hindus came in contact with another civilisation already possessed of a Pāli language and letters, the latter should rather be attributed to some old Western immigration by sea, in the days of the most ancient Egyptians and Phœnicians and their contemporaries. Max Müller had made clear to us the character of the Arian religion. The gods of the Arians are above, and they descend to the earth in occasional incarnations. But there is still very prevalent in all the west of India, and in several forms, another religion, that worship of the procreative power of the Phallus or Lingam, which seems to be the earliest development of the modern idea of the natural progression of type, and which the Buddhists and Jains have carried forward by their system of gradual perfectibility, raising man from below nearly to the rank of a god. That belief in natural progress, from below upwards, seemed to him (Mr. Campbell) to be in opposition to the Arian beliefs in gods descending from above: they were two widely separate types of belief, and his suggestion would be, that any civilisation and any letters which preceded the Hindus in India, may have been brought in from the west, in company with the worship of the Phallus and the doctrines which have sprung from it. But in both we seemed to be as yet but on the threshold of knowledge of the earlier inhabitants of the world. The Society must be greatly indebted to Mr. Thomas for his

communication, and it was most desirable that it should be circulated and farther discussed.

Bábu Rájendralála Mitra said he had not well heard the paper, and could not therefore then enter in detail into the question involved in it, which was one of great importance. The historical evidences which had hitherto been collected, all tended to show that the Arians were one of the earliest civilized of the human races, and that they brought their civilization and social arts from the plateau of Central Asia to the plains of India; and as one important element of civilization was the alphabet, it was difficult to suppose that they borrowed it from the aborigines of the south, whom they described as Dasyus, barbarians and monkeys, and who unquestionably were in a state of mental culture far below that of their conquerors.

The Rev. Mr. Banerjea thought that the papers just read should be circulated. He had no great acquaintance with the Dravidian languages, but had made several visits to Madras, and had thus gained some knowledge of their alphabets. He thought that Mr. Thomas's theory should have been more precisely stated. Which alphabet did he mean—the Tamil or the Teloofoo? The former was as imperfect as the latter was irregularly exuberant. The Tamil admitted no sounds such as *kh*, *gh*, *bh*, *dh*, and had no distinctive character for *g*, *d*, or *b*, the letters *k*, *t*, or *p* doing duty for them in certain positions. The Teloofoo's exuberance itself was a proof of its being a descendant of Sanscrit—the additional letters standing simply for rude aboriginal sounds. It is not probable that the rich Arian alphabets were derived from one so poor as the Tamil. The Teloofoo is evidently an offshoot of Sanscrit. Moreover the aborigines of the country, the Gonds, &c., have no alphabet.

He would not, however, go so far as to say that the invaders had borrowed nothing from the aborigines. On the contrary, he thought that some portions of their worship, especially that of Shiva, had been so adopted.

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In accordance to the notice given at the last meeting, the Hon'ble Mr. G. Campbell moved—

“ That while the members of the Society regret that they feel themselves precluded from expressing an opinion on the purely educational

matters on which Mr. McLeod has done them the honour to consult them, they would venture to express the opinion that it is desirable to adopt for general use the European scientific terms for which equivalents are not found in the vernacular languages."

In introducing the motion, he observed as follows :—

"I would beg to call attention to the exact words of my motion. I direct it solely and entirely to terms which are not found in the vernacular languages. I do not suggest the substitution of European for vernacular terms, where the latter exist : I only say that when there is no vernacular word to express the meaning of anything or any idea which education and civilisation have introduced into India, it is better simply to adopt a widely known and easily used European term, than to coin an artificial and affected new word from the Oriental classical languages. When the subject was mentioned at the last meeting, it appeared that some gentlemen might doubt the propriety of my motion on one or other of two grounds—first, several gentlemen seemed to think that the subject was not one proper to be discussed and determined by this Society ; and a smaller number of gentlemen seemed to prefer the coining of Oriental to the adoption of European terms. As respects the first objection, I repeat that while we can dictate to no one, it appears to me that, to secure uniformity of practice, nobody is likely to exercise such moral weight as this Society. And it is no mere theory that I uphold. It is a matter of pressing practical importance. Sir D. Macleod speaking as Lieutenant-Governor and officially addressing the representatives of the founders of the first Oriental University established in India, has deliberately urged them to eschew European terms, and to adhere to Oriental models in their scientific technology. This advice is almost a command, and once adopted, it may long be thought necessary to follow it. I doubt not that, whatever may be said, the greater convenience of simple and universal European terms, and the great preference for them exhibited by the Native Public, will eventually lead to their adoption ; but meantime there may be great divergence and discordance, and much harm may result. Sir D. Macleod himself has sought our advice, and the Council has placed before us the address which contains his emphatic declaration in favour of Oriental terminology, and made it the subject of a vote of thanks. There is no doubt

that the address tends very much to the ideas of the Orientalist party, and that we sail very near the wind in thanking Sir Donald Macleod for it, without pledging ourselves to that side of the question. But having done so, and our advice having been asked, I think we may well go on to say whether we do or do not concur in certain Ultra-Orientalist advice on a subject, falling, as I conceive, very much within our province.

"On the merits of my proposition, it seems to me that in scientific terminology, of all things, uniformity of nomenclature is most desirable. Ideas wholly new to India must be represented by words new to India. But the vernacular languages have a singular genius for adaptation, and the people are most ready to adopt, and do daily adopt, the convenient terms which we offer to them, together with our new ideas. Is it not then better to permit them to do so, than to say 'No, don't condescend to borrow from us, don't defile your language with our barbarous words, go to Sanscrit and Arabic, and thence concoct compounds and abstruse derivatives, and affix a meaning to them which, if people do not understand, they may be made to understand?' It seems to me that such advice comes less becomingly from us English than from any people under the sun. For what is our own language, of which we are now so proud, but the most polyglot in the world? How have we raised it from a savage jargon to one of the most copious, useful and practical of languages, but by taking all the higher words from foreign languages, wherever we have found them good and suitable? There are some excellent observations on this subject in a paper published by the Society in their Journal since the last meeting, a paper on the Hindustanee by Mr. J. Beames. As he says, "English, by ready borrowing and making good use of its borrowed stores, has raised itself from an obscure low German *Patois* to the most extensively used medium of communication between distant countries." And he draws a capital comparison between English which has thus freely borrowed, and German which has attempted to progress by combinations of indigenous words, rather than by borrowing. He shows us that while English, abounding in words which, though of foreign extraction, are now part of the language, and are concise, clear and easy, uses them with facility and effect, German has become entangled in a mass of horrible long



words, which make the language a caution to the world. He gives us specimens of these terrible words which I dare not attempt even to approach, and which make one shudder to look at them, and he compares them with their simple English equivalents. In fact the German language is the greatest possible obstacle to access to German thought. Radically our language is the same as German, and totally different from French. Yet how much more easy it is for us to learn to read French than German, and how many more of us do so! Why is this? Solely because, commencing by borrowing our terminology from a common source with the French, it has gradually come about that these two languages, originally so different, have now all the higher and more difficult parts of their vocabularies practically common to both—while English and German, originally so similar, have now wholly diverged in respect to all the higher portions of the languages. It is wonderful how few are the radical words of a language. It is said that an English ploughman uses only from 500 to 1000 words altogether, that is the original English vernacular. The language has now expanded, as we know, to very many thousand words, chiefly by dint of borrowing. It may even be that the question raised by Sir D. Macleod is, whether the vernacular languages of India are to follow the German or the English course; whether by compounding from the Sanscrit they are to render themselves as impracticable as the German, or whether, by borrowing, they are to become as convenient and cosmopolitan as the English.

“ Nay more, I believe that a greater question lies behind, the whole subject of inter-communication between the two races. I am one of those who believe that India will never be governed by an English Government to the satisfaction either of the Governors or the governed, till the two races draw together much more than they now do or than they now tend towards. A chief difficulty is divergence of language. We have discussed the great question of the use of English or of the vernacular in education. May there not some day be a compromise,—not in our day, but in those of our descendants—in the use of a vocabulary in a great degree common to both languages? The Vernacular radicals will probably never be abandoned, but may they not be overlaid by a common language, which may approximate them to English and to one another, as English and

French have been approximated? I believe that the question before us involves that issue. Scientific terminology may not seem so important, but it is well remarked in the last number of the *Quarterly Review*, that we scarcely know how far the ordinary words of to-day were the technical terms of another age. To whom does it occur, says the Reviewer, that such English words as 'judge' and 'guard' were originally technical Norman terms? 'Beef' and 'mutton' and many others are more palpable. My hope then is that the day may come, when the great mass of the higher words used in the vernacular languages may be derived from the European sources, from which the natives are so prone to draw—that thus a language to a great degree cosmopolitan may be formed, and that then a man who desires to learn one of the native languages, may have but to acquire the 500 or 1000 words used by the Coolie, with the simpler parts of his grammar, and, so much learned, he may find that almost all the rest he knows already—that he has mastered a polite and copious language. Such a consummation would, I am sure, do more than anything to draw together the educated and intelligent of the different races.

"Meantime, however, my motion is confined to the advice to be given to Oriental Colleges in regard to their scientific terminology, and in the belief that it is better to adopt than to manufacture new terms; and I submit my motion to the meeting."

Mr. G. M. Tagore said,—“Mr. President, with your permission I should like to make a few observations. In my humble opinion, the history of the Sanscrit College of Calcutta powerfully illustrates and throws considerable light on the point under discussion.

“If I recollect right, one of the main objects of that institution was, not merely to encourage oriental learning, but also to convey a knowledge of the European sciences in an oriental garb and through an oriental medium. The Sanscrit College in time, as you know, became the debatable ground between the Anglicists and the Orientalists of that period. Its failure as an institution for conveying a knowledge of the European sciences is now acknowledged by all parties, and that failure, in my opinion, proves the necessity of a new terminology (or technology if you please) upon a new basis. Therefore the most important question in connection with this evening's discussion is, to

have an adequate notion of the basis upon which it is to be built. It has always occurred to me, that a new terminology cannot be introduced into a nation, without a strict adherence to what I should say on organic as contradistinguished from a mechanical law : that is to say not by a law of superposition, but by a law of incorporation. And the great test by which we are to detect whether such a law has been observed or not in any particular case, is by an appeal to the consensus of the nation, or in other words, to its invisible consent. To explain myself :—

“ A living language, as a great writer has said, is one in which a vital formative energy is at work ; and in the course of its evolution, it appropriates and incorporates to itself what it anywhere finds congenial to its own life, multiplying its wealth and increasing its resources, not by an evanescent and sporadic process, but by a fixed and an organic law, casting off from its vocabulary cumbrous forms and useless and uncongenial words, and by a reactive energy rejecting from the body of the language the foreign and the heterogeneous, which through conquest or other intercourse may have been forced upon it. Many foreign words have been introduced into our language under the above process, and many also rejected. For example the word *jahaz* (which is a foreign word) is used in preference to *nauka* for a ship. The word *nauka* in common parlance means boat. I cannot do better than quote the striking observation made by the Rev. K. M. Banerjea in his *Encyclopædia Bengalensis*.

“ ‘ Where words are required that are not in common use, I draw from the Sanscrit, if that can be readily done without having recourse to far-fetched inventions. Where an idea can be easily expressed by a Persian or Hindustani word already current, I make no scruple to adopt it, in case no Sanscrit or Bengali word can be found equally apt for the purpose. Where Persian or Hindustani words have been almost naturalised in Bengali, I do not fastidiously reject them, even though there may be corresponding Bengali words with the same meaning. In such cases I use the Bengali and the Hindustani indifferently, only taking care not to shock my readers by disregarding their taste in this respect. The word *thousand*, for instance, I have sometimes translated by *hāzar*, sometimes by *sahasra*. It is, I think, an advantage where foreign words may be introduced into a language

such as the Bengali now is, consistently with perspicuity, and without shocking the national feelings of the people. This is, I think, the legitimate way of enriching the vocabulary of such a language. Where a Sanscrit word, though expressing originally the idea I intend to convey, has, by the lapse of ages, obtained a different signification, I do not hesitate to use some popular term, having the same meaning, though it may be of foreign derivation. I have for instance generally translated *ship* by *jahaz*, though this is neither Sanscrit nor Bengali, because the Sanscrit *nauka* though exactly corresponding to the Latin *navis*, is now used in Bengali to express a *boat* rather than a *ship*.

“ ‘Scientific terms I borrow from the English, when the Sanscrit fails to produce any either ready made or capable of being easily invented. In Geometry and Algebra, however, I have scarcely experienced any difficulty in procuring terms, since the Sanscrit vocabulary here is very full.’

“ ‘Then again : *Rail-garry* is used in preference to *Loha ka gharry*.’

“ In connection with the present subject, I cannot help alluding to a class of men who ought not to be unnecessarily dragged to the notice of a purely scientific Society, I mean the Indian Missionaries. They would have succeeded to a much greater extent in their proselytising efforts, and would have attracted far greater sympathy from the natives, if they had been careful and provident in the adoption of a proper theological terminology.

“ For example, if instead of naturalizing the word *baptism* in the native Christian vocabulary, they had used the far more expressive correlative of the word in Sanscrit namely *sanskara*, they would have found a certain meeting-place or common ground between Christianity and Hinduism. The introduction of a new word is often an important event in the history of a nation : what Milton said of books, might well be said of words : ‘ They contain a progeny of life which is treasured up in a vial to a life beyond life.’

“ I fully sympathise with Mr. Justice Campbell’s remarks, as to the antagonism between the two races in this country, the Native and the European. I could only wish that the European members in this assembly could fully dive into the depth and the intensity of his expressions. If by the use of a common terminology we could bridge over this unnatural unchristian gulf of separation, I should with all

my heart, and in the intensity of my Christian feeling, say God-speed to it. But I am afraid the scheme will fail, unless it were tested by and introduced in conformity with the consensus of the nation. And that last spark of liberty which this country has, will never yield either to the influence or to the tide of conquest, save and except under a law peculiar to itself."

Bábu Rájendralála Mitra said : " I regret much the necessity that has placed me in opposition to my learned and respected friend, the honorable mover of the resolution ; but I cannot conscientiously give my support to the proposition, that the scientific terminology of England should be introduced bodily into vernacular books. Such a measure, in my humble opinion, cannot but prove highly injurious to the spread of European science in this country. The subject is not a new one. It has engaged the attention of Anglo-Indian educationists off and on for the last forty years, and many and very contradictory have been the opinions put forth about it. Dr. Tytler, who had charge of a vernacular medical school some time between 1820 and 1825, maintained that European scientific terms could not be translated into the vernacular. He accordingly published a series of plates and text-books on anatomy with all the Latin names, such as *musculi adductores digiti minimi*, *musculi crico-arytenoides laterales*, all beautifully transliterated, and in the process, I may add, completely murdered, in Persian characters. This was rebutted by Mr. Felix Carey, who, in a portly volume on anatomy, showed that all the Latin terms could be with perfect ease rendered into Bengali. The late Pundit Madhusudan Gupta at the same time translated Hooper's *Vade Mecum*, in which all the European terms were represented by Sanskrit equivalents. Certain Missionary gentlemen were also, about the same time, engaged in a discussion as to whether the technical terms of the Bible should be transliterated or translated in the Bengali, and a Committee, consisting of Dr. Wilson, Dr. Mill, the Rev. Mr. Morton and some others, reported in favour of translation, and laid down some definite and very judicious rules on the subject. Next came Mr. Boutros of the Delhi College. He would listen to no translation, and obtained the permission of the then General Committee of Public Instruction to introduce English terms in a series of Urdu school books which he compiled for his college ; but they all fell still-born from the press,



and never were touched beyond the four walls of the college premises. Ten years after him, Dr. Ballantyne of Benares brought his extensive learning and ripe scholarship to bear upon the vexed question of Indian technical terms, and ended by publishing a treatise on Chemistry, the most technical of all the sciences of the present day, with the whole of its terms rendered into correct Sanskrit. Since then, the practice in Bengal has been uniformly to translate foreign terms, and all our school books (and the Calcutta School Book Society issues a hundred thousand volumes every year) are produced on that principle. There are however, a few exceptions. I allude to the publications of the vernacular branch of the Calcutta Medical College. There transliteration is the rule exclusively, and in some of them their authors go the length of bodily transcribing such words as a hot bath and a sand bath, and produce in Bengali letters *haṭa bātha* and *sānda bātha*, as if the native languages had not words enough in their vocabularies to indicate hot water or sand or a bath. To an Englishman a sand bath may not be an ordinary everyday thing, but there is not a village boy in the obscurest part of India who has tasted a handful of parched rice, who does not know what a sand bath or a *bālir kholā* is. A learned Professor of the College, himself a native of this country, gravely told me the other day that the hot bath implied a certain fixed amount of heat, which the translated word would not imply, as if in English or even in Medical phraseology the word hot implied a fixed degree of Fahrenheit's thermometer and no other. Sir, the resolution before the meeting, if adopted, would in a manner place the imprimatur of the Society on this folly of *haṭa bātha*. If it be desirable to encourage the study of the sciences and to naturalize them in India, we must make them easily accessible, and bring them home to every man's mind. We must offer them in simple and homely forms, clothed in the easiest language and divested as much as possible of mystical formula and jaw-breaking foreign terms. By adopting the terminology of Europe in vernacular books, we do the very reverse of this. We offer a set of words, many of which, to the generality of the people, will appear in so transmontane an aspect, that they will be taken more for mantras, or charms and incantations for driving away ghosts and overcoming evil spirits, than sober terms for indicating natural phenomena and every-day occurrences and

objects. For the people at large to pronounce them correctly would be a tremendous task, and to understand them accurately an impossibility. And it will readily be admitted that whatever increases the difficulty of acquiring the terminology of a science, tends likewise to disgust the student and render it unpopular. This has of late been greatly felt in England, and attempts are being made to divest popular books as much as possible of hard and not easily intelligible technical terms. To Englishmen Greek and Latin words twisted and turned and shaped on the lathe of the English Grammar, do not appear so foreign and difficult as they must be to the natives of this country, and yet to the former we scruple to offer that which we propose to drive down the throats of the latter. I am not insensible to the advantages of uniformity. I readily admit the great benefit which science would derive by having a common terminology the world over. But a universal terminology is not a universal language, capable of bringing together the different nations of the earth to one brotherhood. The one is, however, as Utopian and impracticable as the other. The nations of Europe, all drawing their terminology from Greek and Latin roots, have failed to secure uniformity. The genius of the different languages have so masked and transmuted the same words, that to people uninitiated in the mysteries of those languages, they appear totally different. To an Englishman unacquainted with French, the chemical terms of France are as unintelligible as those of Germany. But there is another agency at work more potent than the genius of a language, to promote and maintain the divergence of human tongues. It is the climate. However startling it may appear at first sight, it is as true as the sun will rise to-morrow, that the six consonants apiece of the Russian and the sibilants of the English which we have to "hiss, spit and sputter all," owe their origin mainly, if not solely, to climatic influence. That influence in India has given a soft flabby character to the vocal chords, which will always stand in the way of a correct pronunciation of English words in this country. No more will English blood maintain its English character for three generations successively in this land, than English words maintain their speciality. The climate will tell as unmistakeably and as surely on the one as on the other. In less than a century, English

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words in the mouths of the natives will be so far Indianised as to be almost unrecognizable by an Englishman. The English omelet is with the native cook a *mamlet* and the haricot mutton a *hañri kabáb*. I wonder what the triple phosphate, tri-ethyl-ethyl-platino-phosphonium will sound like in a purely Punjabi mouth, even if the boasted perfection of the Sanskrit alphabet could reduce it to writing without murdering its character. But supposing, for the sake of argument that English scientific terms could be reproduced by Indian alphabets and preserved unchanged in the vernaculars, what would be the advantage gained by importing them? We could not hold converse with, or convey our thoughts on any scientific subject to an European, on the strength of a common terminology, without knowing his language. A few idle teachers are all that would benefit by the proposed measure, and they are the last to be pitied. The primary, the great, the only object of technical terms is to systematise science, and thereby to facilitate the acquisition of knowledge; to that must be sacrificed all other considerations; and inasmuch as a nation learns the terminology of a science more easily in its own mother-tongue than in a foreign language, the vernacular is the best material with which to prepare its scientific terms. It is true that those terms are mere names, and "all namès," according to Hobbes, "are words taken at pleasure to serve for a mark, which may raise in our mind thoughts like to some thoughts we had before, and which being pronounced to others, may be, to them, signs of what thoughts the speaker had, or had not, before his mind;" and as such, English words may serve as signs to the Indians quite as well as native words. But scientific terms have something more to do than serve as mere signs. They are not proper names, or what the logicians call "non-connotative" terms, arbitrarily assigned to particular objects. They do not, like Mr. Black or Mr. White, indicate particular individuals by arbitrary assignment, without regard to the power of the words as expressive of blackness and whiteness. They are emblems intimately associated with their original meanings; they are like the *sutras* of our revered Rishis, intended to convey a whole train of ideas by a few expressive signs. The moment they cease to convey those ideas, they cease to be scientific terms, and become the jargon of the cabalists. Chemistry became a science only when Lavoisier and his co-labourers reduced it



to a uniform and most beautifully expressive terminology. Take that terminology away, and chemistry will again be what it originally was. The alchemists knew a great many facts in chemistry; they knew all the principal metals and most of the nonmetallic bodies. They knew them and their compounds well, but they called them brothers of the moon and sisters of the sun, or some such names, and used them as mysteries and delusions. We designate them by words which at once tell us exactly what they are and of what things composed, and we convert alchemy into a science. Let our per-nitrate of iron and sesqui-oxide of manganese cease to connote to our minds the different components of the articles we allude to, and they cease to be instruments of science, and become as unmeaning gibberish as the "sisters of the sun" and the "brothers of the moon." To the natives of India those words must necessarily be perfectly unintelligible, and therefore, if imported bodily into our vernacular books, they cannot but for us altogether destroy the beautiful simplicity and precision of chemistry as a science, and reduce it to the level of a juggler's art. And what is true of chemistry, will be true of most other sciences. Will Mathematics or Botany remain sciences to us, if we be called upon to work mathematical propositions without understanding such terms as lines and angles and arcs and trapeziums? or recognise plants, if we understand not what are petals and sepals and anthers and pollen?

"But perhaps my position will be admitted, and it will be said that the vernaculars are not rich and pliant enough to admit of the formation of sufficiently expressive scientific terms. This, however, I deny. Every experiment that has been made in this country on the subject, has proved the contrary. I am told it was said at the last meeting that such words as galvanism and electricity could not be translated into Bengali. But I can see nothing in them which need frighten us in the least. The word galvanism is a most unfortunate instance to quote. If it indicates anything it shews that we have not yet got a more expressive term in the English language to connote certain electrical phenomena than a non-connotative word, the name of an Italian physicist. As for electricity it simply means 'relating to amber' or *electron* the Greek name for amber. It has nothing to do with the various phenomena which

the modern science of electricity teaches us. We have a word for amber, but what could be a better word to indicate those phenomena than the native term for lightning? Then there are other terms in English which are positively wrong. Oxygen was the sole generator of acids as long as the composition of the hydrochloric acid was not known. A vegetable alkaloid, on the principle I suppose of 'Lucus a non lucendo,' is called narcotine, though it has no narcotic effect at all. Will it be proper to perpetuate those errors when conveying a science from a nation who has it, to another who has it not, and when we have the means of correcting them without creating any jar on usage? I certainly think not. I do not deny that there are certain words in English which cannot be rendered with absolute accuracy in any native language, and perhaps the *fi* : *fa* : and *ca* : *sa* : of our English courts could not be reproduced in such short handy forms in Bengali. But I, nevertheless, maintain that native terms are preferable to foreign ones. The English terms are not always and absolutely correct, though they will always be unintelligible and unpronounceable. The vernacular terms may sometimes prove to be incorrect, but they will be intelligible and useful, and therefore always preferable. But suppose the case were worse, and that vernacular terms were always to turn out incorrect, still their claims would not be second to those of foreigners, for it would be a great mistake to suppose that what is sometimes correct is necessarily better than what is always wrong. It would be a logical position which DeMorgan has justly stigmatised as a gross fallacy. My watch, Sir, it may be, is always wrong ; it goes either a few minutes too fast or too slow,; but it is nevertheless infinitely more useful than the watch which does not go at all, but which from that very circumstance is mathematically correct ~~once~~ in 24 hours. My Indian terms like my watch will always be useful, though they may be at times somewhat inexpressive. The English terms may be exact, but like the watch that does not go, be perfectly useless and a positive encumbrance. I beg of you, therefore, gentlemen, to pause before you adopt the resolution. I feel convinced that it will prove, if it be enforced, a grievous hardship to the people of this country and a serious impediment to the progress of knowledge."

The Secretary read the following letter bearing on the discussion, at the request of the Rev. J. Long.

"I regret that want of time prevented my sending in the paper on technical terms which I promised. It is a subject with which I have had to deal practically during the last twelve years, in connection with schools and translations into the vernacular.

"It is of importance to keep to-night to the point at issue, which I conceive to be—not whether a scientific nomenclature derived from the Sanskrit or Arabic should be constructed for those natives who intend to study *thoroughly* the sciences of Botany, Minerology, Chemistry, Optics, Anatomy?—but whether the mass of the people, who can only gain an elementary knowledge of popular science, should have to study Latin and Greek terminology?

"The upper ten thousand who study English, will of course study science in English, and with it they will adopt the terminology which Englishmen use. But it is a very different question with the masses of India, whose knowledge will and can be gained only through the vernaculars, who have time only to study the elements of popular science.

"With respect to their case, and they comprise 170,000,000 in India, I would make the following remarks:—

"(1) Should we not so then endeavour to *popularise science*, by communicating its truth in as plain language as possible, freeing the approaches to its temple from the thorny jungle of hard words, and not imitating the Schoolmen in making a jungle of terms? Even in England itself, is it not admitted by some of the leading Botanists that their delightful science has been rendered distasteful to many, and particularly to ladies, by the numerous strange terms which they must first study?

"(2) In Bengal, with the exception of medical works, for which there are special reasons, all the popular works in Bengali on Botany, Natural Philosophy, Metaphysics, Astronomy, Zoology and Geometry, Algebra, &c. derive their technical terms from the Sanskrit.

"(3) As nine-tenths of the Bengali language is derived from the Sanskrit, those terms are easily understood and keep a firm hold on the memory. They generally define themselves thus, *peduncle* is rendered by *pushpa danda*, the flower stalk; *petal* by *pushpapatra*, the flower leaf; *petiole* by *patra danda*, the leafstalk; also by a host of others. I have seen myself in schools under my superintendence peasant boys learn these terms with the greatest ease.

" 4 The terms used in Bengali are easily transferrible to the Hindes, Mahratta, and Telugu languages used by one hundred millions of people, and they are equally applicable to Burmah and other countries where the Pali has been in use.

" 5. Throughout India with the exception of a few names, the technical terms used in the Bible and Prayer Book have been derived mainly from Sanskrit or Arabic.

(Sd.) J. Long."

The Rev. K. M. Banerjea said it had been his lot to occupy the *via media* in the discussions which were carried on with such vehemence nearly thirty years ago between the two schools, one of which is certainly represented by the last speaker (Baboo Rajendralal Mitra), and with the other of which the Hon'ble mover of the resolution has been identified, not however, as it would appear, with much correctness. Mr. Banerjea had himself written a good deal in connection with Sir Charles Trevelyan while the controversy was raging in olden days, and like all persons who stand in the middle of a combat, it had been his misfortune to receive shots from both sides. He differed as much from those who despised oriental learning, as from others who would use it as the only or the chief medium of native education. As far as the natives were concerned, the system inaugurated by the victorious party in 1835, under the auspices of Lord William Bentinck, has been fraught with inestimable advantages. "It is to that system," said Mr. Banerjea, "that you owe the large and increasing number of educated natives whose influence is now felt not only throughout the province of Bengal, but is fast spreading to the North West Provinces. It is owing to that system that you have now a native justice in the highest court of the presidency, and that you have a native bar which has been pronounced by competent judges to be scarcely inferior to the bar of Westminster. But for that system, you could not have had such efficient and trustworthy Sudder Amceens and Deputy Magistrates as are now the pride of the public service. And—but for the same system—you could not, this evening, have enjoyed the felicity of seeing the claims of Oriental literature itself enforced by a native gentleman with the eloquence and ability of my learned friend, the last speaker. And here I must remind the Society that the interests of Science and History are quite as much in its keeping as the interests of Oriental lore. The latter

should never be allowed to interfere with the former, nor should the Society encourage any system which would only produce mere pundits, ignorant of the history of the world, ignorant of everything which passed or passes elsewhere than among their own countrymen, whom nobody would trust, and who were once detected in an extensive forgery of whole passages interpolated in manuscript copies of a Sanscrit Law-book, held as authority in the Sudder Court. The real mischief which was done by the Anglicists, as they were called in 1835, was in the discouragement of oriental learning in the civil and military servants of Government. It is owing to the contempt of that learning in high places, that young officers take so little interest in the cultivation of oriental languages, and that you no longer find your Colebrookes and Wilkins raised up in the service by study in India."

Returning to the specific resolution before the meeting, Mr. Banerjea said he would heartily vote for it, if the Hon'ble and learned mover would but add the words "and the classical languages from which they are derived," that is to say, if the resolution ended thus: "Found in the vernaculars and the classical languages from which they are derived." He was opposed to the *minting* of new terms which nobody understood, and which the speculative inventor might himself forget afterwards, unless he daily exercised himself. The Society must not forget the interests of Science in its zeal for Orientalism. Where words are found in the vernaculars or their respective classics, let them not be ignored, let them be preserved by all means. But where the idea is quite novel, and there is no word in the vernaculars or their classics, let the foreign term which introduced the idea be at once adopted, without any murmur about purism. There are practical examples which are replete with instruction in this respect, and from which speculative purists may take a lesson. The records of the lower courts of justice are *by law* required to be kept in the vernacular languages, and yet no one has attempted to translate such words as "appeal," "issue," "decree." In the ordinary business of life, men use terms that are practically useful, without regard to the theories of any school, and no one has ever heard translations of such words as "discount," "exchange," "cheques," and a host of other business terms. The word "map," has been translated by *mán-chitra*, but it exists only on paper: it is never uttered unless by a school-boy under compulsion, and, though it has been on paper for many years

past, if a man went to the China Bazar and asked for a *mán-chitra* of Europe or Asia, no one would understand that he wanted a "map." The word "*naksa*" might be understood, but that is equally foreign to the Bengali with "map." The Society should never encourage a speculative coining of terms when it has not the power of enforcing their use, and it would only throw the Society into ridicule to contend for what may prove an impracticable theory. The last speaker, said Mr. Banerjea, has referred to the Medical College and to its dogged adherence to English terms, unwilling to translate even such words as "hot water." I think the fact speaks volumes. The medical profession has to deal practically with science and human life, and its practice, as my learned friend himself has described it, adds force to the resolution. The experience of such a profession is not to be despised. And there may be many reasons for not translating even the words "hot water." The words are of course translatable, every community has a word for *heat* and one for *water*. But there may be occasions in which a Doctor may do much harm by translating them. And this reminds me of a case in which harm *was* done. Many years ago a person (a native) was taken ill of the cholera, and there was congestion of the brain. A sub-assistant surgeon ordered the application of *hot water bottles* to the feet: he translated the order to the female who was attending on the patient. How did the lady understand the order and how she executed it? She had water warmed and then *cooled* and putting it in bottles, applied them to the feet. *Cold* water bottles were thus applied instead of *hot*, and the patient died! Speculative purism must not be pushed to the extent of sacrificing everything else before the shrine of oriental lore.

\* On the other hand, he would not proscribe terms existing in the vernaculars or the classics. He himself translated the elements of Euclid into Bengali twenty years ago, and with a solitary exception or two, he found all the necessary terms in Sanscrit, and freely adopted them. The Hon'ble mover of the resolution, he thought, would not wish the ignoring of such terms, and under this impression and with the slight alteration he had suggested, he would cheerfully give his vote for the resolution.

Bábu Rájendralála Mitra begged permission to say a few words with reference to the amendment suggested by the Rev. Mr. Banerjea. He did not care whether names of foreign things were taken from

foreign languages or coined in the vernaculars. He would in such cases rather borrow than coin. But in regard to compound terms which were not only to denote a thing but also to connote an attribute, he thought the process of borrowing would be highly objectionable. If it be strictly followed, it would put an end to all scientific terminology, and the beauty of classification would be entirely gone. There was in Bengali a word for iron, and also one for the oxide of iron, but none for oxygen or an oxide. Now in treating of the oxide of iron in Bengali, he asked whether it should be called *oxide of iron*, or, oxide of *lohá*, or *morchyá*? The first would be perfectly unintelligible, the second an intolerable mongrel, retaining an English preposition and an English affix in connection with a Bengali word, and the third utterly unscientific. In Botany again there was a word for leaf in Bengali, but none for lanceolate, and he left it to the meeting to decide if the words *lanceolate leaf* or *lanceolate pátá* would be the most appropriate way of teaching Bengali mallies the peculiarity of a particular kind of leaf. He was no purist, he said, and had some experience in the preparation of vernacular works for his countrymen, and he begged most earnestly to assure the meeting that there could not be greater monstrosities in language, than terms made up partly of European and partly of native words, held together by a random sprinkling of English prepositions and English affixes, and to them the meeting would drive the people of this country if it would insist upon their terminology being transliterated, and not translated and adapted from the English language.

On the motion of Major W. N. Lees, the discussion was then adjourned till Wednesday the 18th Instant.

The Council reported that they had elected Dr. J. Ewart, a member of their body, *vice* Major W. N. Lees who had resigned.

The receipt of the following communications will be announced.

1. From Baboo Goopee Nath Sen, Abstract of the Hourly Meteorological Observations taken in March, 1866.

2. From the Officiating Secretary Government of Bengal, Public Works Department, "Report of the Superintending Engineers of Bengal on particulars of the Earthquake of the 15th December, 1865."

3. From Captain H. H. Godwin Austen, "Notes on the Pangong lake, District of Ladakh."

## ADJOURNED MEETING—JULY.

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The adjourned Meeting of the Society was held on Wednesday, the 18th July.

A. GROTE, Esq. senior member, in the Chair.

The chairman read the proposed resolution.

The Chairman then called upon Major Lees as the mover of the adjournment, to reopen the discussion.

Major Lees said he regretted that he could not for many reasons support the motion. *First*, Because he felt certain, that if any such resolution as that before the meeting was passed, it would be wholly inoperative; and it did not, he thought, become Societies, founded for the investigation of scientific subjects, to waste their time in discussing a resolution, which, when passed, would be a dead letter. *Secondly*, This Society, composed as it was of a mixed body, some who professed one branch of knowledge, and others who professed another, but the great majority of whom professed none, was not the kind of Society whose opinion on such a subject would carry any weight with the public. An opinion on this subject, to be of any value, should emanate from a literary Society, the majority at least of whose members had some acquaintance with the principles of comparative philology and the genius of a variety of languages. The question of terminology was surrounded with difficulties in the West, and when we came to the East, those difficulties were increased fourfold. *Thirdly*, He must oppose the motion, because, if it were passed in its *present* form, it would certainly excite the ridicule of all men of science, and especially of those German philologists, to whom the whole world is so deeply indebted for their able researches into the principles which regulated the philological structure of languages, and for those labours which had laid the foundations of the science of language. In adopting technical terms for employment in translations from English into the vernacular languages of India, to exclude the large body of terms which already exists in the classical languages of India, would be very like excluding terms derived from Latin and Greek from our terminology in Europe.



The whole subject, as it appeared to him, was one of extreme difficulty, and one for which we ought not to lay down any rules; for if we did, no one would be bound by them. It was a subject which must be left to time and experience, and the time past and the experience already gained went some little way to show that, if let alone, the matter would right itself. It was a subject upon which coercion would do harm rather than good. People, if left to themselves, generally adopted that which appeared to them the easiest mode of settling a difficulty; and in this matter experience taught that, though individuals might be so eccentric, where a nation had a new science or new sciences to learn, they did not invent or coin new technical terms, when they had old ones *convenient for use* ready at hand. Thus the Arabs, when they translated all the Greek works on science they could obtain, did not invent new terms, though they did not as a rule import the Greek terms. They translated the ideas when possible. The Persians, when they commenced to study those sciences, many of which the Arabs had elaborated from the Greeks, took over bodily the whole terminology of the Arabs. European astronomers again did not reject the whole of the astronomical terms they found in use with the Arabs; they adopted some and translated others. There is no rule. Each nation, no doubt, adopted the course that appeared easiest and most in accordance with the peculiarities of its language; and such will be the case here. There are difficulties in the application of both methods, whichever be approved; and no resolution of ours will remove or simplify them. Thus, if to translate purely technical terms be impossible (as it really is), to introduce words which are not such, and which are easily translatable, is a very great mistake. It only increases the difficulties of acquiring knowledge, which no one can approve. It will be admitted that one of the gravest objections to the *chevaux de frise* of technical terms with which the approaches to all Western sciences is guarded, is that they deter many from acquiring them at all. This cannot now be mended; but here foreign words are often introduced quite needlessly, which not only hinders progress, but actually leads to the commission of ludicrous errors. Many of the terms mentioned the other evening as instances of the impropriety of using foreign terms are of this class. They afford no ground for argument, for they are not technical terms at all. Again, the learned Babu

instanced the word *electricity*, derived from ἤλεκτρον, *amber*, as an unhappy instance of indenting on Greek sources ; but true technical terms come to be identified with the things or ideas they represent, and in ordinary use, seldom, if ever, retain anything of their derivative meaning. In a treatise on *electricity* published in the *Birgisi Baris*, or the *Paris Jupiter*, an Arabic newspaper published at Paris, chiefly for circulation in *Algiers*, but which is also taken in by some natives in India, the term used, if I recollect rightly, is precisely the same, viz. *kahrubah*, which is the Persian for *amber*, and which no doubt conveys its meaning equally well. Here the telegraph is the only illustration of the power of the electric fluid generally known, and it is called *tar-i-barqie* by educated Mahomedans, and *bijli ki tar* by the Hindus, both meaning “lightning wire.” The one serves the purposes of those who use it quite as well as the other, and as *electric wire*, and both are equally scientific. The uneducated natives or common people generally call it *teeleegaraf*, which in Hindustan can have no scientific value, and to native ears must sound somewhat harsh if not barbarous. As illustrative of the errors likely to follow the abuse of terms not properly technical, he mentioned a curious circumstance. “In reading a native petition to Government last week,” he said, “my attention was attracted by the words *Government parmeshwari lote*, for ‘Government Promissory note.’ Now *Parmeshwari* means relating to *Ishwar*, i. e. the Supreme Being, or, as we would probably say ‘divine’ or ‘holy.’ I pointed the word out to my native secretary as a curious coincidence. The *Maulavi*, however, informed me that it was no coincidence : that the lower order of natives had an idea that these notes were very solemn things ; and that the Governor-General or some great State Officer, in issuing them, was obliged to take a solemn oath, that they would be cashed on presentation.” But this, or the very numerous similar instances which could be adduced, are no arguments for or against the introduction of foreign technical terms in translating scientific treatises. Such blunders are made by the common and uneducated people in all countries ; and he would be far from wishing to exclude *new* terms taken for a foreign tongue, from scientific works in India, because the *masses* would probably change them into any familiar terms which happened to be similar in sound—what he chiefly contended for was, that we should avoid, as much as possible, raising

up new difficulties, or increasing the difficulties which already beset the acquirement of almost all sciences. To pass any resolution which would exclude from the Vernaculars the great body of technical terms which already exist in Sanscrit and Arabic, in theology, law, logic, mental and moral philosophy, philology, mathematics, astronomy, &c., would come with a very bad grace from this Society. He had brought with him a weighty tome, which lay on the table before him. It was nearly a foot thick. It was called the *Kashfal-Zoonon*, and was a dictionary of the technical terms used in the sciences of the *Muslims*. This book was published by this Society a few years ago, at a cost of some Rs. 7000 or Rs. 8000, and was edited under the superintendence of Dr. Sprenger and himself, and if this resolution was passed in its present form, it would be tantamount to saying that that sum of the Society's money had been wasted, or, in other words, would be to pass a vote of censure on ourselves. "We have here, it may readily be understood, a great mass of technical terms, and there are very many more in other dictionaries, which have been published elsewhere." To reject *all* these terms; or, as one half of them no doubt are to be found in some translations which have already been made, to take one half and to reject the other half, would doubtless not be a very wise thing to do. Indeed, to reject any terms which, being accurate and, as existing in a cognate language, more easily and more generally understood, can be more readily incorporated with the language into which the translation is made, would, in his opinion, be a very foolish thing. And to this latter point considerable attention must be paid, as the genius of languages differs materially. Of those we have to deal with, in this part of India, there are two great divisions; one which delights in compounds, the other which abhors them. The two cannot be said to be equally well adapted for receiving or absorbing, as a portion of the language, new terms derived from a foreign source. Again in the West, the Roman alphabet is in universal use. Here we have languages with very different alphabets, some having more, and some having fewer letters. Thus the Arabic language has not the letter *p*; and in different countries where that language is spoken, the letter *j* is pronounced as *J*, *G* & *h*. Few Asiatics can pronounce foreign words beginning with two consonants, though the sounds may not be un-

known in their own language, and these distinctions and differences of sounds and letters could be multiplied almost *ad infinitum*. It is thus often that true sounds are lost, especially when words are transliterated back into the original language, or any other foreign language. The Arabs, as before mentioned, translated most of the Greek technical terms where they were translatable, but they retained, of course, proper names. Some of these latter might be recognized if rendered into Greek or Roman letters, as *Sokrát* for Socrates, *Fiságaroos*, for Pythagoras, *Aristotilis* for Aristotle; but others, such as *Jalinoos* for Galen, would certainly become *Jolly Nose* in English, and *Bukrát* for Hippocrates, might with equal probability become *Big Rat*. "I trust then that from these hurried and unprepared remarks, I have made it clear that there are difficulties on either side of this proposition, and that this meeting will see that they will best consult the interest of science by letting it alone."

Mr. Dall favoured the passage of the resolution, provided the phrase "*technical terms*" be used in its stricter sense. At least there was a class of terms applied to recent facts and the discoveries of modern science, for which he conceived that no corresponding term could be found, even in the bulky quarto of Arabic and Sanscrit terms now on the table. He doubted if his friend Major Lees would find there any term answering to the chemical elements of bodies as at present recognized. As new facts and combinations occurred, or resolutions of bodies, once held to be simples, into yet simpler substances were accomplished, names were selected for them which partook of the nature of proper names of persons, and were, like our own names, untranslatable. Either an entirely new name must be invented, other than that which had obtained general acceptance among scientific men,—or the term must be transliterated. It could not be translated.

Mr. Blochmann read the following remarks :—

"I agree entirely with the last remark made by Major Lees, that the record of the opinions of the members of this Society regarding the resolution before us, will remain inoperative. The chief argument against a Sanscrit and an Arabic terminology has been already clearly stated by Mr. Justice Norman. I intend mentioning a few other reasons, which may be perhaps of interest, as they are based on facts.

"The possibility, or otherwise, of inventing technical terms is by no

means a modern question. We know that among the Romans, Cicero was very often in great distress for the want of Latin equivalents for Greek scientific terms. The terms he required were for the most part metaphysical ones, and the *Disputationes Tusculanae* and *De Officiis* are full of words coined by him. In many cases, however, Cicero retained the Greek terms, evidently despairing of the success of Latin equivalents. How Cicero succeeded in *passing off* his new coinage, is a historical fact. Notwithstanding his great authority as the first of the Latin classics, he could scarcely prevail upon his countrymen to accept a single one of his coinages. Language is the immediate result of thought; you may call it thought itself: and hence no man will suffer his language being dictated to. Plutarch relates another curious example. A freed slave of the name of Carvilius, who was the first writing master in Rome during the first Punic war, wished to make a difference in form between the letters C and G. For up to his time and for several centuries after him, the Romans employed the C alike for C and G. Although a distinction like this would have been of the greatest practical benefit, Carvilius could not prevail upon his countrymen to adopt it. Three hundred years after, he found a votary for his proposed change in the Emperor Caligula, who was an amateur philologist, and it appears that, soon after, the distinction proposed by Carvilius was at last generally adopted. Here we have an example of a practical and necessary change requiring more than three centuries to become generally adopted.

The examples of modern times are also striking. The French Academy, with its magnificent Dictionary, was not able to fix the classical character of many phrases proposed and sanctioned by that learned body. The French language has since progressed independently of that dictionary. In Germany, about twenty years ago, a Society of respectable scholars was founded in Potsdam, whose object was, to substitute for every foreign word in the German language a good German equivalent, and to do away with the apparently useless foreign terminology. The scheme seemed to stand a good chance; for the power of the German language of forming compounds is, as it is the case with the Sanscrit, almost marvellous; although these compounds are by no means so formidable and unutterable, as the Hon'ble Mr. Campbell, and some time ago Mr. Beames in an essay in our Journal, represented. The Potsdam

scheme appeared also the more promising, as being suitable to the German mind, so fond of speculative theories. The Society went to work right earnestly. Even for the names of the Greek and Roman mythologies, German equivalents were substituted. But what was the end? The people of Germany would not accept the proposals of a learned Society; the invented compounds were laughed at, notwithstanding their general excellence. The fact that the language could form the compounds was no proof that they would become naturalized. The whole scheme is now-a-days forgotten, but it ought to be a warning to the whole world, and especially to Englishmen, who justly boast of looking at the practical side of every question.

With such examples before us, I cannot say why the case should be different here in India, as, I speak with all due deference, the pundits here will not be able to form more acceptable compounds than German savants.

I have to mention a few other facts. My learned friend, Babu Rajendralala Mitra, was very enthusiastic in speaking of Sanscrit compounds. But are the Hindus the only class, for which a new terminology is intended?

We have a large proportion of Mahomedans in this country, will they accept Sanscrit compounds? The answer will be, *No*; you must take them from their classical language, Arabic. Now I maintain—and I know that every Arabic scholar will be on my side—that the formation of compounds is altogether against the *genius* of the Arabic language; so much so, that our largest Arabic dictionaries do not contain a single compound, not even a coined compound. It is only in the very modern Arabic, that a few compounds have been attempted, but they are not yet generally received. Thus I may mention the modern Arabic word for rosewater, *ماء الورد* for *الورد*. The position of the article before the word *ماء* shows plainly that *الورد* is a compound. Under these circumstances, we would have to take words which are not compounds, i. e. we should have either to give new meanings to existing Arabic words, or invent new roots. Both things are impossible, especially the latter, as all languages on earth which are not absolutely savage, have long ago lost the power of creating new roots. This explains the fact that numerous foreign terms have been introduced into every living language. The Arabic is no exception to

this rule. For, rich and immense as the resources of this language are, a very large number of Greek and Persian terms were adopted, even from the time before the Hijra, which in some cases seem altogether useless. Thus we find even in classical works *سارستان* or *بیمارستان* P. hospital, or *لشفا* A. *تخمین و دارا* to cast up an estimate, from the P. *طسق* for the good *نقدیر* A. *خراج* a tax, tribute, the Greek *τάξις* for the A. *خراج* and hundreds more. The Arabs have certainly a large number of indigenous scientific terms, as is shewn in the grand dictionary published by Drs. Sprenger and Lee for our Society. But these technical terms are altogether insufficient for modern science. It is a well known fact that the Arabic and Sanscrit possess a large number of metaphysical technical terms; and I think that every modern work on metaphysics could be easily translated into Arabic and Sanscrit, without the use of a single Western technical term. But this is the case with every language. For in metaphysics we have as yet no general terminology, as in Natural Science, nor do even the technical terms of one English philosopher in every case agree with those of another. I mention this, in order that the immense number of Sanscrit metaphysical terms, which are more or less accepted, may not induce some of my learned friends to extend their expectations to the technical terms of other sciences.

Babu Rajendralala Mitra mentioned among others, the fact, that useless words, like 'hot baths' for *garm gosl*, had become accepted by the vulgar. I would not call this a technical term, but view it rather as an adoption necessary to avoid ambiguity, like *posman*, *áfis*, *sléce*, *clák*, *silwara*, for postpone, office, slice, clock, sale-warrant, &c. Europeans have not recommended their use. The vulgar has got hold of them and refuses to let them go now. But Babu Rajendralala Mitra mentioned also Botany, and said that the Bengali or Sanscrit had beautiful words for petal, stalk, &c. and that the introduction of these English words would be mischievous. But the introduction of such terms even is not intended. We do not care whether the English, French, German, Bengali, &c. have the same or different words for things like petal, stalk, &c.: we could not call such words technical terms. For they existed in the language before the science of Botany was cultivated. But all European savants give to the plants the same scientific name, and in this respect it is desirable, that India.

should adopt the same. All European languages have the same word for locomotive, electrophorus, astatic needle, isotherms, &c. These and similar words may be often differently pronounced in different countries. The English pronounce locomotive, the French locomotive and the Germans locomotivay. My learned friend fears that the Indians might imitate the word, and perhaps pronounce lakmadip and lokhyodibh. There is no harm in that. Only let them spell it as the Western nations do, that treatises written in future by Bengalis, on improvements on locomotives, may be easier understood in Europe. ●

The fact that every country speaks a different language, is a formidable obstacle to the rapid interchange of scientific ideas and facts. A radical difference in terminology would only increase the obstacle. Nor are translations of technical terms here of any use. The Potsdam Society recommended for Jupiter the translation, "Tagesvater," i. e. Father of Day. It was smiled at. What would a Persian say, if you recommended to him for locomotive موضع خراك because موضع means loco and خراك moves? He would laugh. I am told the Punjabees, on seeing the first locomotive in Amritsir, called it "the iron horse," just as the Roman army fighting in Lucania against King Pyrrhus called the elephant *Bos Lucanus*, Lucanian ox. But I have no doubt that the iron horse will soon give way to locomotive or *Railgari*, just as the *Bos Lucanus* has given way to *Elephas Africanus*."

We have then the following additional reasons against a Sanscrit terminology of compounds. First the useless, I might say ludicrous, attempts made in ancient and modern times against the natural development of a language, by dictating to it coined terms. Secondly, a terminology from the Arabic is impossible, as being against the genius of the language. Hence Sanscrit technical terms would suit a portion of India only. ● Thirdly, modern languages have lost the power of forming new roots, (I do not mean derivatives) for new things. New things in our times are invariably expressed by foreign terms.

Then, in my opinion, we may retain for the purposes of vernacular education the use of those technical terms which the Indian classical languages already possess, but we might fairly recommend the introduction of our Western terminology for such terms as do not



exist at all in Sanscrit or Arabic. Should the languages of India adopt even in many cases English terms, for which good native terms exist, we ought to remember from the past, that the severity, or authority, of no linguistical purist is powerful enough to arrest such a phenomenon.

“I am under the impression that science has long ago established the correctness of the resolution before us. But I cannot see what benefit would arise, if our Society should record an opinion on a settled matter. For this reason I cannot support the resolution.”

Mr. Blanford spoke to the following effect :—

“With many of Mr. Blochmann’s remarks I am entirely in accord. As I remarked on the first occasion on which the present matter was discussed, I do not think that any decision that the Society may come to, will in any way affect the ultimate practical result, which will be determined by the convenience the natives may find in adopting the one or the other course now under discussion. All we can do is, to endeavour to ascertain which of the two courses pointed out will probably prove most convenient, and by endeavouring to convince others, save them, perhaps, some misapplied labour. Sir D. Macleod has given his opinion, an opinion which, being at present unopposed, will doubtless carry much weight with those to whom it was addressed ; but he has asked us for our opinion also, and I think therefore we are bound to give it.

“The question at issue is, I take it, purely one of convenience, and we may fairly set aside all supposed preference on national grounds for one or the other course. Science is cosmopolitan, and nothing tends more to raise men above small local partialities, than the study of Science in a scientific spirit. I must, however, point out at the outset, that all my remarks are intended to bear on the study of *Science*, which alone deserves the name,—of that body of systematized knowledge, which has methods, as well as a language of its own ; and I in no way refer to such scattered fragments of its results as are imbibed as dogmas, and with a view to their practical uses, by those who have little or no conception of scientific method. For the education of the masses, it will probably be found here, as in England, that much useful practical knowledge may be conveyed, with the assistance of a very small amount of technology, and that words in common use

may, with very few additions, suffice to convey as much knowledge as the people generally either require or are capable of acquiring. Scientific technology and nomenclature are chiefly required because Science deals with new and rigorous conceptions, and because she recognises distinctions which are not recognized in popular language ; since the masses who use that language, do not find it necessary to draw such distinctions. When these new conceptions and rigorous distinctions are learned and recognised, a scientific language is required to express them with precision ; but the acquisition of the ideas and knowledge of things is the essential and really difficult part of the process, and the sounds which denote them are very easily learned, when their meaning has once become familiar. I have found in my own experience at the College, that students learn technical terms much more readily than they acquire the ideas they are intended to convey. The error, which, as I conceive, has pervaded the greater part of my friend Babu Rajendralal Mitra's eloquent address, affords an illustration to the point. He has frequently used a very technical term, 'connotation,' a term certainly not much used in ordinary conversation or writing, but he has used that term—not in its rigorous technical sense,—but as if it were synonymous with 'descriptive etymology.' Indeed his main argument rests upon the assumption, that as a general rule, the root-words of which a technical term is compounded, inform us of the meaning of the term itself, (the 'connotation' or possession of certain distinguishing characters which the term implies.) This, as I shall endeavour to shew, is by no means a common character of the nomenclature of science, of the naming of objects ; equally little is it the case with scientific terminology, or the technical terms by which objects and their relations are described ; and if this be so, I think the whole argument that has been based on the assumed identity of 'meaning' and 'etymology,' by confounding them under the unfamiliar term 'connotation,' falls to the ground. That so erroneous an idea should ever have been adopted, is, I imagine, in great part due to the method, by which, in a measure perhaps unavoidably, it has been attempted to teach Natural Science in this country. As I have elsewhere observed, this has been mainly a book teaching of names and words, not of things, or of the ideas which the knowledge of *things* suggests ; and it is no wonder therefore, if, in the absence of the objects and visible

phenomena, the custom has grown up of endeavouring to collect the meaning of technical terms from that of the elementary sounds composing them.

“ Let us see now how far technical terms are really descriptive. In Zoology and Botany, to begin with, a very large number of names are simply the names of places or individuals, with a slight alteration or addition of the terminal syllable. When any fact at all is recalled by the name, it is usually nothing more important than that the animal or plant or fossil so named was first noticed at such a place, or first collected by such a person. Even this last is quite exceptional, and more frequently the name is given as a mere verbal monument of some friend's merits. In the Physical Sciences, in which the mere nomenclature is less copious, and therefore less exhaustive of our resources, terms of similar derivation are also frequent, and thus we have *Magnetism*, *Galvanism*, *Leyden jar*, *Frauenhofer's lines*, *Boyle's law*, *Nicholl's prism*, *Ammonia*, *Magnesia*, *Andalusite*, *Silurian* or *Cambrian systems*, &c., a list that might be extended almost *ad infinitum*. Among these, we frequently find two or more terms of totally different technical signification, derived from the same source, as *e. g.* *Magnesia* and *Magnetism*, *Ammonia* and *Ammonite*. Another class of technical terms are based on some fanciful analogy or erroneously supposed relation. Such are *anode* and *cathode* in Electric Science, *Hematite*, *Topaz*, *Blende*, and *Crystal* and its derivatives in Mineralogy, *Porphyry* and *Trap* in Geology, and a host of others. And in Zoology or Botany, even when the name used has some descriptive meaning, it would be frequently as applicable to those objects which it counter-indicates, as to those which, by convention, it denotes. Thus such names as *formosa*, *splendens*, *magnus*, *similis*, *dubius*, *problematicus* are of constant occurrence as specific names, when they would greatly mislead, were they supposed to be descriptively distinctive. Lastly, to take those cases in which well known vernacular terms are used in Science, we frequently find them used with a distinct or specially restricted meaning, so that it is a question whether, in such cases, their use is not apt to foster that very vagueness and confusion of thought, which it is the chief condition of Science to avoid. Such are *fault*, *joint*, *rock*, *cleavage* in Geology; *current*, *pole*, *positive*, *negative*, *salt*, *atomic weight*, *acid*, *base*, &c. in Physics and Che-

mistry ; and in Zoology we use such terms even as *fish*, *reptile*, and *insect* in a more special sense than in ordinary language. These, however, and a large number of words constantly in use in vernacular languages, are generally translated in European languages, and the same will doubtless be the case to a great extent, when scientific books are written or translated in the Indian vernaculars. But these words are expressly excluded by the terms of the resolution.

Babu Rajendralala Mitra's argument that chemistry, without its systematic nomenclature, would relapse into the confusion and mysticism of Alchemy, affords a salient proof of how much he has misunderstood the real state of the case. In answer to this, it is sufficient to say that the chemical systematic nomenclature only applies to a small part of the science, the inorganic branch ; but he will scarcely assert that organic chemistry is not as much a science of law, and weight and quantity, as the inorganic branch. Science, as I have said, is characterized by its precision of idea and rigorous definition, and whether the etymology of the words it employs to denote ideas and things, have a vaguely descriptive etymology or not, is a matter of quite secondary importance, so long as the things are well known and the ideas are clearly conceived and accurately reasoned upon. I think then, that in popular vernacular teaching, where scientific exactness is not aimed at, and cannot be attained, the less technology is employed, the better ; and the fewer the Greek, Latin or Sanscrit terms introduced, the better probably for teachers and pupils. When new objects previously known only to science become familiar to the people, experience shews that they have no difficulty in learning the names, however unfamiliar their etymology may be. *Rhinoceros*, *Hippopotamus*, *Astronomy*, *Astrology*, *Geography*, *Aniline*, *Paraffine*, *Iodine*, and a host of other terms originally esoteric, are now familiarly used by thousands who have no idea of their etymology, and by classes to whom they were originally as strange and unfamiliar as they would now be to the mass of the people of India. But, for *science*, technology is indispensable, and as the students of science must have recourse to works in other languages than their own, it is a great advantage to them, (I speak from my own experience) to have to learn the vernacular vocabularies only, and to find in those languages the same terms, (written, if not pronounced the same,) as are already familiar

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to the eye. In reply to Major Lees, I would say, that in my opinion the whole question is not one for Literary Philologists to decide, but rather, in so far as any decision is possible, for those who are practically familiar with the demands of their own sciences.

Dr. J. Anderson thought that the *onus* of the debate rests on Sir D. Macleod. He had said in his reply to the address of the native nobility and gentry of Lahore and Umritsur, "I would urge you to adhere to oriental models, whether in the designation of your institutions, the degrees or honors they may confer, or the scientific technology they may adopt, rather than unnecessarily import terms from European lands, which last appear to me to be as unsuitable here as would be the modes of dress of other nations, if substituted for the more graceful garments of your own;" and in his memorandum read at the meeting of the Society in June, he had invited the aid of the Society's advice and encouragement, with reference to the subject of this address. Two matters quite distinct from each other had been discussed by the meeting. One was the mode in which educated natives could best be inducted to a knowledge of European science. The other was that of a dogmatic imposition of a technical language. This last was of course impracticable, but with reference to the former he thought the only way of attaining the object in view would be, to use the language of European *Savans* which had been specially invented to convey their ideas. He thought, however, that the terms of the resolution, as it stood, were too dogmatic, and he would move the following, as an amendment—

"That while the members of this Society regret that they feel themselves precluded from expressing an opinion on the purely educational matters on which Sir D. Macleod has done them the honor to consult them, they would venture to express the opinion that it is not desirable to discourage the general use of scientific terms, for which equivalents are not found in the vernacular languages."

Mr. Ganendro Mohun Tagore said,

"I beg to second Dr. Anderson's amended motion. You will pardon my observing that there is considerable difference between encouraging the use of a foreign technology, and the amended form of the resolution, not to discourage the use of a foreign technology. The former would have been a direct interference, whereas the latter is only the suggestion

of a co-operative measure that may tend towards the enrichment of the Indian vocabulary."

The Rev. K. M. Banerjea said that he understood Mr. Blochmann to concur with most of the other speakers on the *essentials* of the Resolution now before the meeting—only, he was opposed to the carrying of that resolution, because he thought there was no occasion for it. If the Hon'ble and learned mover had asked the Society, uncalled for, to commit itself to the sentiments contained in his resolution, he, Mr. Banerjea, would have joined Mr. Blochmann in deprecating this motion. Mr. Blochmann has shown with great ability and learning that the resolution is correct in its *essentials*, and that the arguments which another learned member had put forward a fortnight ago in opposition to it, were not weighty. But Mr. Blochmann thinks that the Society is not called upon to pass the resolution, though correct in itself. He, as it were, moves the previous question, without directly contradicting the resolution. Mr. Banerjea cannot concur with him in this. The society has already committed itself. The Society has expressed a sort of *quasi*-approbation of a scheme calculated to stop the progress of historical studies and scientific researches on the part of the natives of the Punjab. For how could they study, purely by means of the oriental languages, subjects not contained in those languages? The Society is pledged to consult the interests of Science and History no less than those of Oriental lore. Its anxiety for one of its trusts has already led it to overlook the other. An expression of opinion is therefore necessary in the interests of Science, which have inadvertently been compromised by what has passed. Besides, Mr. Macleod has asked for the Society's opinion. If nothing more be said than what has already passed, Mr. Macleod will have no data for concluding that the sentiments of the Society are anything like those which are contained in Mr. Campbell's resolution. The Society being already committed, it is too late now to move the *previous question*, as it were. The previous question might have been originally moved, when Mr. Macleod's scheme was first brought to the notice of the Society. The Society might have abstained *in toto* from an expression of opinion on the Punjab scheme, as it never took any notice of a measure at its own door—viz. the resolution of the Calcutta University, by which the study of Sanscrit and Arabic was made compulsory

on the part of Indian graduates not taking up Greek or Latin. The Society might therefore have refrained altogether from interfering with educational movements—but having already interfered, it is too late at this time of day to say that it has no business with a motion of this kind. It has already entered into the business—it cannot now back out. It must face the resolution. Let it negative the resolution directly if it can—but while approving it in its essentials, let it not throw it overboard by something like a motion of the *previous question*.

Mr. Banerjea then moved an amendment in the wording of the resolution, which he said ought to conclude with the words “for which equivalents are not found in the Indian vernaculars or the classical languages from which they are derived.” He thought that while elaborate fabrications of new compounds, quite as unintelligible as any European terms, and much more so than current European terms, were to be deprecated, no terms already existing in the classical languages of the country should be ignored.

Mr. D. Waldie said :—

“I do not intend to object to any modification which the honorable mover of this resolution may make upon it, but I confess that I should have preferred Mr. Campbell's original motion. Sir Donald Macleod's proposal on this subject appears to me very objectionable, for it seems to give encouragement to a spirit of nationality. Now, science knows nothing of nationality : science is cosmopolitan in its spirit, and it is of the greatest importance that its language should be as universally understood as possible. Major Lees has said that the chief advantage and necessity for scientific nomenclature is, that it may be universally understood. This, it is true, is a highly important point, but it is not its primary object : that, as has already been indicated by Mr. Blanford, is precision of definition. Etymology is of subsidiary importance ; in giving a name, though it be his dog or his horse, a man always has some reason, but the name becomes arbitrary, and its origin is often forgotten. For instance in the case of the chemical elements Chlorine, Bromine and Iodine ; though these names were derived from Greek words, indicating certain qualities of these bodies, the large majority of people acquainted with these bodies and their properties, will much more readily remember the Greek words from the knowledge they have of these properties, than they

will such properties from the origin of the names. The names in fact become arbitrary terms.

"I do not see the force of the objection raised by Major Lees from the large volume of native scientific terms he has referred to. As regards words which are suitable for their purposes, there is no reason for changing them, and we do not desire to do so; but there must be many also, more particularly those connected with the natural and physical sciences, which can only be of interest or use in the history of antiquated science. We make no objection to preserving them for such purposes, but the question at present is with reference to the introduction of modern science: we are endeavouring to introduce the knowledge of new things, facts and ideas, for which there are no native words in existence; and what we contend for is, that the names given to these things by those who have first described or created them, should be accepted by those to whom they are impartial, and not be superseded by others needlessly invented for the purpose. If the plea of nationality and peculiarity of language is a good one, then in proportion as scientific knowledge is extended to different races, we should have new terms invented not only on the basis of the Sanscrit, but on that of Arabic, Chinese or other leading language, producing difficulty and confusion greatly to be regretted.

"European cultivators of science do not confine themselves to words of Latin and Greek origin: there are many instances of terms derived from other languages; and it appears to me that it would be a course much more redounding to their honour, if the Hindoos, in cultivating the modern sciences, instead of setting about inventing new terms to replace those already accepted and used by scientific men throughout the world, were to apply themselves to the discovery of new facts, and the evolution of new ideas. In giving names to these, should they derive them from the Sanscrit or the Arabic, there can be no doubt but that European men of science would readily adopt them."

Major Lees said that he was very reluctant to prolong a discussion which, he had already stated, he thought profitless; but he must protest against the turn that had been given to the debate, lest it should be inferred that the principle against which the arguments of many of the gentlemen who had spoken this evening were levied, was embodied in the reply of the ~~Lieut. Governor~~ Governor of the Punjab to the



native nobility and gentry of Lahore and Umritsur. It was sought to be shown that Sir Donald McLeod had said something conceived in a spirit of hostility to the use, under any circumstances, of Western scientific terms in oriental translations; but he had read his reply very carefully, and nowhere could he find any grounds whatever for such an assumption. What the Lieut.-Governor does say is, that he would prefer to see the promoters of the Lahore College adhere to oriental models "in the scientific technology they may adopt, rather than unnecessarily import terms from European lands." And he would draw special attention to the word *unnecessarily*, the force of which seems to have been entirely overlooked, or the sense of the passage misunderstood. But it appeared to him, that if the Lieut.-Governor's impression was to be interpreted in the sense, words in the English language ordinarily bore, what he had said, had very nearly if not quite the same meaning as the last amendment to the Hon'ble mover's motion; and having been in communication with His Honor, since notice of this motion was given, he was not at all prepared to say that, were he here present, he would offer any very strenuous opposition to it. Such being the case then, it seemed strange to him to propose a resolution evidently intended to express dissent from a particular view, which was almost identical in substance, if not in the terms of its expression, with the resolution brought forward to condemn it. It must be borne in mind that Sir D. McLeod was addressing a body of gentlemen whose special object was to found an Oriental College, in which the subjects mainly studied will be the classical languages of India; and though the Lieut.-Governor himself is opposed to anything like exclusiveness, and desires "to disseminate as far as possible the knowledge supplied by all lands," yet no doubt the wish and intention of the founders is to revive the knowledge of their own ancient classics, which has almost disappeared. Possibly very little science may be studied in this College at all, which, it may be the intention, should bear the same relation to Government Colleges, as a very few years ago Oxford did to Cambridge, when an Oxford student's knowledge of any branch of science might have been set down as *nil*. It had been said of the students of Oxford, that though ignorant of science, there was an odour of Plato and rose-water about them, and possibly that is the style of thing our friends of Lahore prefer to chemistry, botany, and other studies which bristle with technical terms.

Mr. Campbell, as the mover of the resolution, replied as follows:—"I must remind the meeting that this discussion came about in consequence of the submission to the Society of an address of Sir D. Macleod to the Oriental University, and a memorandum of that gentleman asking our advice on the subjects there mooted. A resolution of thanks to Sir Donald for his address was proposed and voted; but at the same time, to guard against the construction that we shared the more extreme Orientalist views contained in the address, I gave notice of the present motion. It appears to me that Sir D. Macleod, in words as plain as words can be, urged the managers of the new University *not* to adopt European scientific terms, but to take them from Oriental models. Major Lees now seeks to show that Sir Donald meant nothing of the kind. His argument is ingenious, but savours somewhat of special pleading. I can, however, well believe that on re-consideration, Sir Donald would not maintain so extreme a view, and am glad to suppose that both he and Major Lees may now to a great degree concur in my motion. I sought to express dissent from the view contained in the passage of the address, by voting affirmatively, that when we have to express a new thing or a new idea, not known to the vernacular languages, it is better to adopt the cosmopolitan term expressing that idea or thing, rather than coin a new one, or drag into the service from a dead oriental language a term wholly unintelligible to the people. But I am extremely ready to defer to the feeling expressed by several members of the Society, that it is desirable to avoid any appearance of dictation in the matter. I am perfectly content to leave the matter to the free and unbiassed choice of the natives themselves, who, in all their relations with us, show so decided a tendency to the adoption and adaptation of European terms. I have no doubt that whatever we may resolve, they will in the end use those terms. My only object is to express dissent from the strong discouragement of and warning against that course, which the passage in Sir D. Macleod's address to which I allude, seems to convey. Therefore, when I came, to the meeting to-day, I thought that my object would be quite sufficiently served by the negative form of the resolution, which I sought to substitute for that which I had placed before the meeting, and which Dr. Anderson has now been good enough to move. Dr. Anderson's amendment

simply expresses that it is not desirable to discourage the use of European terms. We would leave the natives free to use them if they find them most convenient. We think that from us Europeans, at any rate, there should come no discouragement of such a course, which in fact most of us would, I believe, rather actively encourage, so far as in us lies, though we cannot and would not dictate in the matter. I propose then to withdraw my original motion, and to support that in an amended form, as moved by Dr. Anderson.

"I cannot consent to the amendment of the Reverend gentleman opposite, because I think that it is not desirable to adopt obscure and far-fetched Sanscrit and Arabic words. Sanscrit is not in this country the language of education as Latin is in Europe. Ordinary educated natives know nothing of Sanscrit, and Sanscrit compounds are as bad as German ones. Arabic is a language wholly foreign to this country; all very well when the Mahomedans were masters, but not suited to these days. The first result of this proposition would be, that we must all make a commencement by getting up the whole of the terrible great book which Major Lees has placed on the table, a book which the Society has printed, but which I doubt if any member has read. The speech at our last meeting of the learned Babu Rajendralala was most able and excellent, and my only objection to it is, that it was not to the point. He seemed to represent me as seeking to force down the throats of the natives English words for the commonest terms, for 'hot water' for instance. Such an idea I never entertained for one moment. I have all along said that, wherever a vernacular word exists to express the required meaning, and is used by the people, they must continue to use it. I have been asked what I mean by the vernacular. I mean simply the language used and understood by decently educated natives. Of course I do not suggest that a word is not vernacular, because it is of Sanscrit origin. "*Jal*,' water was mentioned, that is an elementary vernacular word. As respects the words "general use" in the proposition before the meeting, it is now only proposed that we should not discourage the use of English words by those who choose to use them. I would say, Let the more learned few use European words which they find convenient, and let the millions also use those European words which they find convenient, whether scientific, technical, or any other. I do not object to corruptions: in all

adaptations there must be corruption, but a very little practice enables us to recognise one word a little modified. We hear every moment natives around us using such words as "rail," "map," "receipt," "claim," "court," "decree," "warrant," "momlet," "boot," and many others. I hope that they will long continue to use them, and increase their stock. At any rate I say do not let us discourage their doing so."

The chairman, in putting the motion to the meeting, observed that he did not understand Major Lees as having qualified and retracted the remarks which he had made in opposition to Mr. Campbell's motion, and in all which remarks he (the chairman) cordially concurred. Nor could he read that passage of Sir D. Macleod's reply to which Mr. Campbell had just referred, as asking for the Society's opinion on the question of scientific technology which had been discussed at such length. Sir D. Macleod seemed to wish for advice only on the subject of the relations to be established between the new Oriental College and existing Government institutions, a subject on which the text of Mr. Campbell's resolution very properly declares the Society to be precluded from expressing an opinion.

Major Lees had anticipated the chairman in calling attention to that passage in Sir D. Macleod's reply which had given rise to the resolution before the meeting. The advice therein given was '*not unnecessarily* to import terms from European lands.' Dr. Waldie had pointed out instances, in which it would be absolutely necessary to import terms from some source, and to cases such as these, Sir D. Macleod's warning would not of course apply. If the chairman rightly understood Mr. Campbell's closing remarks, the latter gave his assent to the view of the question expressed by Dr. Waldie, and in that case he thought that his motion in the negative form, which it had assumed as Dr. Anderson's amendment, might well be withdrawn.

Mr. Campbell had at the last meeting referred to Mr. Beames's paper just published in the Journal, but the chairman did not there find any disposition to advocate the object of the resolution. Mr. Beames strongly recommended the indenting on Arabic rather than on Sanscrit roots for supplying deficiencies in official Hindustani; but his objections to Sanscrit compounds would apply to the introduction of terms derived from the Indo-Germanic languages.

As the hour was late, the chairman would now put to the vote the several amendments which had been handed to him. Mr. Campbell had, with the permission of the meeting, withdrawn his original motion, and had adopted the amended form of resolution proposed by Dr. Anderson. He would now read the latter to the meeting.

“That while the members of this Society regret that they feel themselves precluded from expressing an opinion on the purely educational matters on which Sir D. Macleod has done them the honor to consult them, they would venture to express the opinion that it is not desirable to discourage the general use of scientific terms, for which equivalents are not found in the vernacular languages.”

To this the Rev. Mr. Banerjea proposed to add as a rider :—“or the classical languages from which they are derived ;” and the following amendment had been handed to him by Babu Rajendra Lala Mitra ;—

“That all terms intended to denote attributes should be invariably translated and adopted ; but simple names of things may be taken from the languages of Europe, if their equivalents be not found in those of India.”

The amendment and rider having been put to the meeting and negatived by shew of hands, Dr. Anderson’s resolution was submitted to vote, when there appeared—

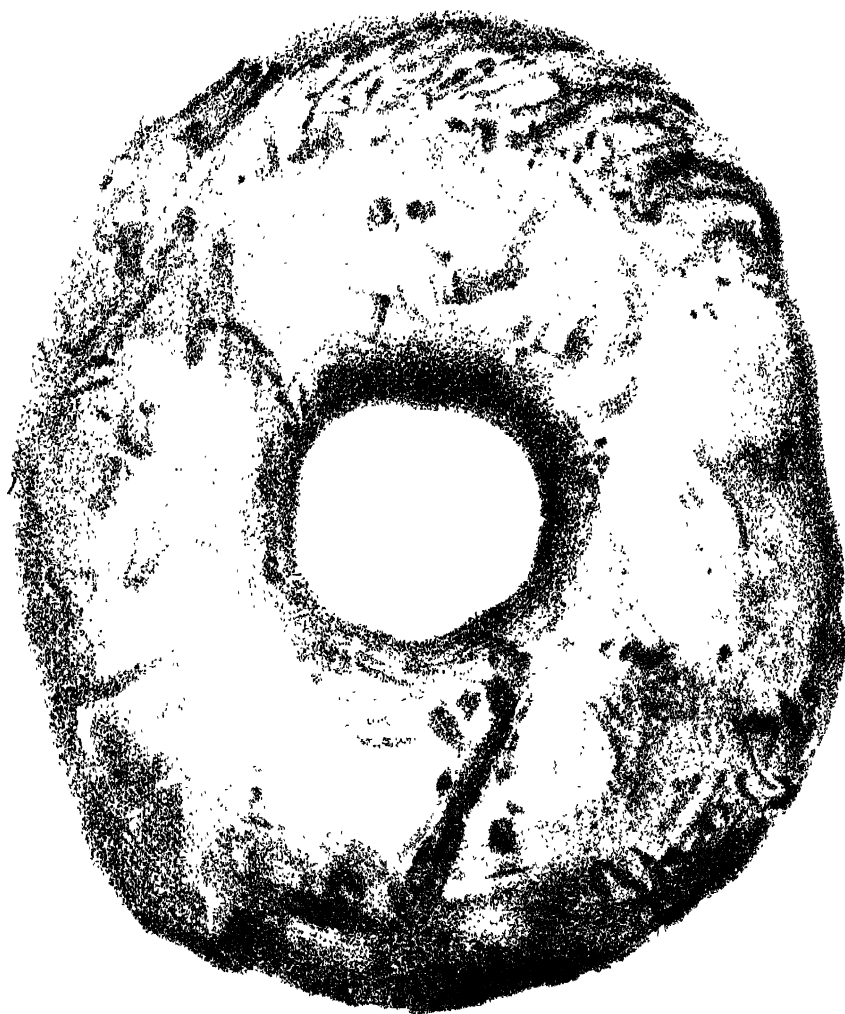
For the resolution :

Against it :

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and the resolution was declared carried.



STONE SPINDLE-WHORL  
from a CHALTRA near JUBBULPORE

Lith by H. Dixon, Surveyor Genl's Office Calcutta Aug. 1866



PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,

FOR AUGUST, 1866.



The monthly general meeting of the Asiatic Society of Bengal was held on Wednesday, the 1st instant, at 9 p. m.

The Hon'ble J. B. Phear in the chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced—

1. From the Government of Madras, a copy of lithographed sketches of the Shevaroy, Pulni and Anamulley Hills, by Lieut.-Col. D. Hamilton.

2. From Major B. Ford, specimens of *Crustacea*, *Echinodermata*, Centipedes and snakes from the Andaman Islands.

3. From W. T. Blanford, Esq., Specimens of *Gallus Sonneratii*, *Galloperdix lunulosa*, *Fuligula rufigula*, *Antelope quadricornis* (two heads), and fore and hind leg of *Bos Gaurus*.

The following gentlemen were proposed for election at the next meeting:—

Lieut.-Col. H. Ballard, C. B. proposed by Mr. Grote, seconded by Mr. H. F. Blanford. Captain F. S. Sherer, Deputy Commissioner, Gowhatty, proposed by Dr. J. Anderson, seconded by Mr. H. F. Blanford.

The Council reported that they have elected the Hon'ble G. Campbell, as Vice-President, *vice* Mr. W. L. Healey, who has resigned; also that Mr. A. Mackenzie has been added to their body in his place as a member of the Council.

The Council reported that they have appointed two provisional Committees to determine the course of action of the proposed Ethnological Congress, and they have nominated the following gentlemen as members, with power to add to their number.



*Physical Committee.*

A Grote, Esq.

Dr. S. B. Partridge.

H. F. Blanford, Esq.

T. Oldham, Esq.

Dr. J. Ewart.

Dr. J. Anderson, *Secretary*.*Linguistic.*

The Hon'ble G. Campbell.

H. Blochmann, Esq.

Babu Rajendralala Mitra.

Major W. N. Lees.

J. Beames, Esq.

H. Beverley, Esq., *Secretary*.

The following communications received since the last meeting were then announced.

1. From J. Beames, Esq., on the Arabic Elements in official Hindustani, No. 2.

2. From the Secretary to the Government of Bengal: some Reports on the earthquakes felt at different parts of India.

3. From W. H. Johnson, Esq., through Col. J. T. Walker: Report of the Survey operations of the Cashmere series beyond and to the north of the Chángchénmo valley.

4. From Col. E. T. Dalton: The Kols of Chota-Nagpore, with Notes on the Oraon language by Rev. F. Batsch.

5. From the Punjab Auxiliary Branch of the Asiatic Society of Bengal: two Notes on visits to Cashmere, by Major D. F. Newall, R. A.

6. From F. S. Growse, Esq., C. S.: some objections to the modern style of official Hindustani.

The Secretary read some extracts from Mr. Johnson's report on the Survey Operations of the Cashmere series, giving an account of the writer's visit to Ilchí in Khotan. The following is a brief abstract of some portions of the paper:—

The author's route to Ilchí in Khotan was from Leh by the end of the Pangong lake and over the Másimik Pass to the Chángchénmo valley. Thence crossing the ~~the~~ Pass, he proceeded in a northerly direction on high extensive ~~the~~ "which might be called

plains in comparison with the rugged ranges of the Himalayas, for they have a greater extent of level than of hilly ground, and the hills are low, and have such easy slopes that a horse may be galloped over them everywhere." These plains are at an elevation of from 15,300 to 17,300 ft. and extend up to the foot of the Kíun Lun. To the east and south-east, the author noticed other plains of considerable extent, which are believed to merge into the Chángtháng plains of Rudok. To the west there were no plains, but a series of deep valleys, in which are the sources of one of the principal affluents of the Kárákash river. Proceeding northwards from the plains abovementioned, the author struck the Kárákash river at a point six miles west of the G. T. station on the Kíun Lun, E. 57, (lat.  $35^{\circ} 53' 36''$ ; long.  $79^{\circ} 28' 32''$ , height 21,767 ft.) and 25 miles to the N. W. of its source; which is in a spur of the Kíun Lun, separating the valley of the Kárákash from the plains crossed by the travellers. The author learnt from native information, that the Kíun Lun stretches in an easterly direction for about 100 miles from the source of the Kárákash, and then terminates in an extensive plain, which communicates with the Cháng-tháng plain: further, that by skirting the Kíun Lun range, wheeled conveyances might be taken easily from Ilchí to the Chángchénmo valley near Leh.

After a stay of some days on the Kárákash, which the author employed in visiting several peaks and fixing points for the continuation of his survey across the Kíun Lun, he proceeded, on the invitation of the Khán of Khotan, to Ilchí, a journey of 16 days due north, and by very difficult roads. The whole country of Khotan north of the Kíun Lun range, including seven pergunnahs of Yárkand, which had submitted to the Khán of Khotan during the author's stay in Ilchí, is an immense plain, sloping gently downwards to Aksú, fifteen long marches north of Ilchí. The entire plain is watered by numerous streams and some large rivers, which are the principal affluents of the Tárím or Argol river, which in its turn disembogues into the great Lake of Lob Núr. The whole country is irrigated by canals from these rivers. Six miles north of Ilchí is the great desert of Taklá Makán (Gobi), the shifting sands of which are said to have buried 360 cities in the space of a few hours. Brick tea is dug out of one of these cities in large quantities, and finds a ready sale in Khotan, now that all trade with China is stopped.

Khotan, which was formerly a province of China, is now independent, the Mahomedan population of Yárkand, Khotan, Káshgár, and other provinces of Central Asia having, in 1863, massacred all the Chinese in those provinces, except a few who adopted the Mahomedan religion. The population of Ilchí is about 40,000, and that of the whole country of Khotan about 250,000, the females preponderating over the males to the extent of 20 per cent. They have a slight Tartar cast of features, and speak the Turki language; they appear to be very strict religionists.

The chief grains of the country are Indian corn, wheat, barley, bajra, jowar, buckwheat and rice, all of which are superior to the Indian grains, and of fine quality, the climate being mild and equable in temperature, with moderate rain in slight showers occasionally. The country is described as being superior to India, and equal to Káshmir, over which it has the advantage of being less humid. Cotton of good quality, and raw silk are produced in large quantities. The principal forest trees are the poplar, willow and tamarisk, and between Khotan and Aksú, for a distance of twelve marches, there is such a dense forest of them, that travellers are said to have lost themselves in it. The whole country is very rich in soil, and produces splendid grass, but the greater portion is waste, for want of inhabitants, and the present produce is more than sufficient for the wants of the population.

The Khán of Khotan has an army of 6,000 infantry and 5,000 cavalry; and a large artillery force, commanded by the Khán's sons and a Pathan from India.

From Ilchí the author visited Kíriá, about 40 miles east of Ilchí, and the site of an old city near Urangkásh, from which the brick tea is exhumed. He met with great difficulty in taking observations for fixing the latitude, as the Khán, although he offered no objection to the use of the plane-table, was decidedly opposed to astronomical observations, saying that his courtiers considered it might be preliminary to the country being taken possession of by the British Government. The author was, however, invited to visit Yárkand and take possession of it in the name of the British Government, and was informed that the inhabitants had clubbed together and collected three lakhs of rupees and *khilats* as a present, if he would take up the

governorship of Yárkand, as they were tired of anarchy, confusion, and constant warfare with one another, and oppression at the hands of the Khokánees.

After a stay of sixteen days, the author was allowed to take his departure, and after a rapid march to Luk in the Yárkand territory, and about 36 miles east of the city of that name, he returned to Zilgiá, and thence proceeded viâ Sanjú to Shádulá, the guard house on the frontier of the Maharajah of Kashmír, and so southwards to Leh.

The paper was illustrated by a sketch map, shewing the author's route, and was accompanied by several Itineraries, partly derived from native information.

Extracts from a note by Colonel Walker on the subject of the above paper were read, as follows :—

“ The position of Yárkand as assigned by Montgomerie differs by about 200 miles in longitude from that assigned by the Schlagintweits. I think Montgomerie's value is a full degree in longitude too much to the east. We know the distance between Yárkand and Káshgár pretty fairly, and we know the position assigned to Káshgár by Russian officers. If Montgomerie is correct, the position of Káshgár must be considerably altered.” With reference to Mr. Johnson's paper he remarks, “ It is the most valuable contribution to the geography of Central Asia, that has been made, for several years, by anybody in India.”

The Chairman, in proposing that the thanks of the meeting be voted to Mr. Johnson, observed as follows :—

“ The paper which has just been read by our Secretary, Mr. Blandford, seems to possess very considerable merits. The country which Mr. Johnson describes certainly exhibits many remarkable features. Whether we consider it in reference to its contiguity to three distinct kinds of civilization, that of China on the one side, of the Russian Empire on another, and of England or rather British India on the third, that is to the south and south-west : or whether we look at its somewhat isolated position on the high plateau of Central Asia : or, again, if we turn to the character for good looks and personal beauty which the author gives to the inhabitants, so little to have been anticipated *a priori* in a people said to have a close connection with the

Chinese and the Turanian races ; or to the singular fertility (unequalled in this part of the world, unless perhaps by that of the valley of Cashmere,) which is displayed on one side of Khotan, contrasted on the other by that phenomenon, which is, I believe, in some respects still a puzzle to geologists, namely, the growing desert ; or lastly, to the important political questions which are proposed by the author :— in whichever of these aspects we regard the subject of Mr. Johnson's paper, it appears to me to afford us many topics of unusual interest, and I have great pleasure in now inviting discussion upon them."

Mr. G. Campbell and Mr. W. T. Blanford offered a few remarks on the paper, and the thanks of the meeting were unanimously voted to the author.

PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,

FOR SEPTEMBER, 1866.



The meeting of the Asiatic Society of Bengal was held on Wednesday the 5th September.

The Hon'ble G. Campbell in the chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced—

1. From A. Grote, Esq., two specimens of *Euhydria Bengalensis* : one specimen of *Lepus Ruficaudatus* : one newborn foal of *Equus Caballus* : three eggs of *Colotes versicolor* : four specimens of live Geckos : and one of a Python.

2. From Mrs. H. Mackenzie of Bangalore, through Mr. Grote ; an abnormal skull of a dog from North China.

3. From Lieut.-Col. J. E. Gastrell, a map of Central Asia, compiled in 1866.

4. From A. M. Fergusson, Esq., a chart shewing a summary of information regarding Ceylon.

Skins of the *Bos Gaurus* and the four-horned antelope were exhibited by Mr. W. T. Blanford, who offered some remarks on these specimens and on the distribution of the animals frequenting the Sal Forests.

The following gentlemen proposed at the last meeting were ballotted for and elected as ordinary members :—

Capt. F. S. Sherer.

Lieut.-Col. H. Ballard, C. B.

A letter from Rajah Apurva Krishna, intimating his desire to withdraw from the Society, was recorded.

The Chairman read a communication from Mr. Temple, with an enclosure from Col. T. Spence, regarding the collection of aboriginal specimens of the human race, at the approaching Jubbulpore Exhibition. He said,—

“ I am glad to be able to inform the Society that our efforts for the establishment of a system of Ethnological exhibitions are likely soon to bear practical fruit. In these things, the first step is the most difficult; and if we once make a commencement, the rest will follow. Knowing that Mr. Temple, Chief Commissioner of the Central Provinces, proposes to hold an Exhibition at Jubbulpore next Christmas week, and believing Jubbulpore to be the centre of a country abounding in the most interesting aboriginal races, I suggested to him the advantage of adding a human department to his exhibition. Mr. Temple is a man always ready to take the lead in any movement in advance: he acts, while others only think. The letters which I will now read will show that he has accepted our suggestion.

“ They run as follows :—

*“ The Residency, Nagpore,  
5th July, 1866.*

“ MY DEAR CAMPBELL,—In reference to your Ethnological suggestion: I enclose an extract copy of a note from Spence.

“ I have told him to get the Exhibition Committee to see whether a little lucre may not tempt these wild creatures to come into the station and be clothed, and shewn off for the edification of their more civilized fellow-humans.

*(Extract from Col. Spence's letter.)*

“ With reference to the proposal for getting up an Ethnological Exhibition as an addendum to the Exhibition at Jubbulpore, which forms the subject of your letter of the 20th instant, there is no doubt that there are many interesting races in various parts of this division: but I fear it would be very difficult, if not impossible, to get specimens of these races collected at Jubbulpore, for they are as wild as the jungles and hills which they inhabit; and are so suspicious, that they would be sure to think we must have some mysterious object in view. If we could manage to bring some of them in, we should be obliged to provide clothing for most of them: at least I can say that when I was in the Mundlah District in January and February

last, one of the most characteristic specimens of the Bygah race I saw there, boasted of nothing more in the way of clothing, than a green tassel, and a powder-horn, which, however cool and airy, was scarcely sufficient for decency! I shall do what I can, to have men belonging to as many different races as possible collected at the Exhibition; and should any scientific men desire to make an examination of the heads and general conformation of any of these specimens of the human family, our Committee will give all the assistance that can be rendered without risk of causing annoyance or apprehension, which we must, of course, be careful to guard against.'

'A. BLOOMFIELD.'

True copy,

"You will see that Col. Spence, notwithstanding the difficulties suggested, hopes to get some very interesting specimens; and Mr Temple proposes to get over Col. Spence's difficulties by a little judicious bribery. Of the existence of races of the wildest and most curious types, there can be no doubt. The Bygahs mentioned by Col. Spence are new to me. In those parts, the Gonds are a sort of superior and dominant aborigines, perhaps conquerors; and the Bygahs and other extreme savages are no doubt the vestiges of more primeval races, and must be of the very greatest interest.

"With respect to the clothing, I would only suggest that I think we should prefer to have them in their native and characteristic shape without it. As cleanliness comes after godliness, so I think that decency must come after science; at any rate I would only satisfy the most inevitable demands of decency.

"I would then strongly recommend all those members of the Society who take an interest in the subject and have the leisure, to arrange to be at Jubbulpore at Christmas, and to be prepared to make the most of the aboriginal gentlemen whose acquaintance they will have an opportunity of making. I propose that the Society communicate to Mr. Temple and Col. Spence their warm thanks for the way in which they have taken up this matter.\*"

This proposition being put to the vote was carried unanimously.

\* The morning after the Society's meeting, Mr. Campbell received a communication on this same subject from the Secretary of the Jubbulpore Exhibition, and the opportunity is taken of publishing it with these Proceedings, to show that the matter is actively going forward. The aboriginal classes mentioned by the Jubbulpore Committee include all the most important



The chairman then read a letter from the Rev. Mr. Jaeschke communicated by Mr. F. Cooper, C. B., regarding the languages of the North Himalayan Frontier, which he introduced with the following remarks :—

aboriginal families of Central India. Mr. Campbell has only been able to suggest the addition of some 'Bhooyas' and some of the wildest Kol tribes from Sumbulpore. The Gonds from beyond Belaspore and Chutteesgurh are much more savage and primeval than those of Jubbulpore. Mr. Campbell has also asked whether search could be made in a westerly direction for the 'Sherrias' of the sources of the Chambul, mentioned in a paper read to the Society last year, and also whether some of the purer specimens of Bombay Kolees could not be brought up for comparison with the others.

Mr. Campbell has farther suggested that, situated as Jubbulpore is in the very centre of India, it would be very interesting to place in a conspicuous position characteristic specimens of the different civilised and semi-civilised races found in the Central Provinces. Jubbulpore and the country to the north would supply the Hindustanee tribes and castes. In Nagpore proper and the country to the west and south are the Mahratta races—and in the extreme south-east districts, down the Nerbudda, is a Telinga population.

*Nagpore, 1st September, 1866.*

MY DEAR MR. CAMPBELL,—I think it was at your suggestion that the Jubbulpore Exhibition Committee first decided to collect ethnological specimens at Jubbulpore this Christmas. You may therefore like to see what they propose to do.

If you could offer any suggestions for improving the human show, they would be gratefully received.

I hope you are to be there yourself to see.

Your's sincerely,  
C. BERNARD.

HON. GEO. CAMPBELL,

*Extract from Exhibition Committee's letter.*

"Our ethnological arrangements may at present be told in a sentence. District Officers were addressed in a circular, a copy of which was furnished you. The only replies received are from Denny, Deputy Commissioner of Seonee, and Troyford, Deputy Commissioner of Baitool. Denny can bring some wild specimens perhaps, but asks us to pay Rs. 5 each for them, a question we put on one side, till we see what other Deputy Commissioners will do. I have been talking over the matter with Pearson. He thinks we might get specimens of the following wild tribes without much difficulty.

Gonds.  
Koorkoos.  
Bygahs.  
Bheels.  
Kols.

"Are there any other wild tribes we can lay hands on ?

"The value of single specimens would, I presume, be small. We will try and get a family of each.

"The Gonds could be got near at hand. But it may perhaps be worth while fetching a family of them from Belaspore, and another from the upper Godavery, in order to mark diversities, (supposing they exist). Koorkoos from Hoshungabad, Bygahs from Mundla and Belaspore, Bheels from Nimar, and Kols from Bagerajogurh.

"I will ask the Deputy Commissioner of these Districts, if they can get us a family of each. We shall have to feed our biped specimens, no doubt. And when they are here, we will photograph them. The scientific observation part must be done by visitors. Cumberledge will be asked to send some specimens from Sumbulpore."

"I have received from Mr. F. Cooper, C. B., resident in Kashmere, a communication from the Rev. Mr. Jaeschke, Missionary in Lahoul. He does not seem to have any personal acquaintance with the Kashmere countries, and his criticisms on our Proceedings are principally derived from books. He advocates the claims of the snowy peaks North of Almorah and north-east of Lahoul to be the great and small *Kailas* of the Hindoos, but eventually he comes to a conclusion in which I am much disposed to agree, viz., that the word was applied vaguely and generally to "unknown heights." If so, the snows of 'Nanga Parbat' and the surrounding country west of Kashmere may properly, claim the name without interfering with rival claimants. Mr. Jaeschke is, however, certainly wrong in assuming that there is no modern country of 'Chilas,' because he says he finds from the map that 'Chilas' is only a single village. He admits that his great authority, Cunningham, applies the name *Kailas* to the whole range covering this part of the country, but he adds 'only as a scientific proposal, from want of another name.' This is quite a mistake, General Cunningham rightly applied the name, only correcting *Chilas* to *Kailas*. I can testify from personal observation that the country up there is just as well-known as 'Chilas' as 'Bengal' is known down here.

"Mr. Jaeschke advocates the claim of the ancient name 'Dardee' to be applied to the languages of those parts. If it is preferred, I have not the slightest objection. I only wish to get the language, by whatever name we call it.

"More important are Mr. Jaeschke's remarks regarding the country which he himself knows. He says—

'All this does not affect the usefulness of the proposal of Mr. Campbell for the sake of philological science in general, and it would undoubtedly be a great gain to it, if all these dialects and languages were thoroughly explored by competent scholars, and more especially those which may be supposed to be of unmixed Aryan descent. As for myself, I am greatly obliged to you for the sending of the papers concerning this project, but my aid to the object in view will necessarily be very scanty, or nothing at all, as my principal study is confined to Tibetan; and the two or three hill dialects of this neighbourhood, which have little or no affinity with Tibetan, have,

as far as I know, not any more with Kashmere, or the Dardee dialects. I intend to make some more accurate enquiries into the Balte dialect, which seems to be Tibetan mixed up with a great deal of Persian and other foreign words, as well as into the above *non-Tibetan languages* of this valley, as far as my other duties leave me time for it; but I don't think this to be in any connection with the desires of the Asiatic Society, as defined in the papers before me. Proceedings, &c., p. 48."

"Now Mr. Jaeschke is quite mistaken in supposing that the non-Thibetan languages of his neighbourhood do not come within the scope of our inquiries. We did not specify them, because we did not know of their existence. But nothing can be more important than the existence in these most remote valleys, secluded among the eternal snows, of non-Thibetan languages. Those must be among the most ancient traces of the world's history, and whether they prove to be Arian in their character, or whether they are allied to any aboriginal tongues of India, they will mark one of the earliest forms of human speech. Sir Donald Macleod expressed to me in conversation a suspicion that the name of Kooloo (the valley south of Lahoul) came from the old aboriginal word 'Kol,' 'Kolee' or 'Coolee,' but I do not know if this has been confirmed. At any rate the exhumation of those fossil languages of the valleys, separated for thousands of years by snow and enormous mountains from all the rest of the world, would be the very greatest service to science. I propose that we thank Mr. Jaeschke through Mr. Cooper for his communication, and express to him our earnest hope that he will communicate to us information regarding the non-Thibetan languages alluded to by him."

The receipt of the following notes by Mr. J. Beames, on the Sanscrit "*Om*" and Hebrew "*Amen*," and Prof. Blochmann's reply to the above was announced and ordered to be printed in the Proceedings.

Mr. Beames writes as follows:—

"I do not think there is any connection between the Sanskrit *om* and the Hebrew *amen*, for:—

1st. The word *amen*, which is found in all Semitic languages, is a verbal participle of the verb *āman* (Arab. Syr. Eth. the same),

meaning originally "to support or prop;" then, "to carry a child in the arms," in which sense it occurs in Numbers xi. 12, where the words are "*caasher yissá há-omén eth-há-yonek*," i. e. "as a foster-father carries a child." Our authorized version renders the word *omén* (the present participle) by "nursing-father," and Gesenius aptly compares the use of the Greek word *παιδαγωγός*.

The cognate word in Arabic is *عالم* to nourish, and we are thus led to seek the original biliteral Semitic root in the syllable *man*, and to regard the *a* initial as a later addition.

Although, as Mr. Blochmann says, an accessory *n* may be traced in some biliteral roots, yet a prosthetic *aleph* is far more common; and in treating of a point so far removed beyond the historic period of language, we must not confound grammatical with radical processes. Mr. Blochmann seems to be doing this; he seems to be thinking of verbal derivatives in *on* or something of that sort.

The Arabic root *mána* leads us to *bánah* 'to build,' whence *ben* 'a son,' and the original signification is thus closely connected on all sides with the ideas of erecting, supporting and confirming.

Thus although the Sanskrit compound *oman* and the Hebrew uncompounded word *amen*, have at first sight some surface similarity, yet it is evident on a little enquiry that in the Sanskrit word the idea of *confirming* lies in the syllable *ao* or *o* the syllable *man* being merely a grammatical addition; while in the Hebrew word the idea of *confirming* lies in the syllable *man* or *men*, the syllable *a* being merely prosthetic. To connect the two words then philologically, we should have to establish a community of origin between *ao* and *man*, which is a difficult, if not an impossible task.

2nd. The word *amen* is found in its sense of "so must it be," as early as Numbers v. 22, in the description of the ordeal by holy water as applied to women suspected of infidelity.

The priest repeated the curse, and the woman answered "amen, amen;" meaning, "If I be guilty, may the curse take effect on me."

Again in Deuteronomy xxvii. 15, where, in the hearing of the whole nation, curses were pronounced on those who should break the law, at the end of each curse, "the people answered and said, 'amen,' i. e., "so mote it be."

Now whatever antiquity we ascribe to the Pentateuch, we cannot

well put it later than 1200 B. C., and I suppose Sanskrit scholars claim a still higher antiquity for the Vedas; but the word *om* being a corruption of *oman*, the origin of this latter word must be put further back still, just as the use of the Hebrew *amen* in a work dated 1200 B. C., points to its existence at a much earlier age. If then we have succeeded in shewing the improbability of the two words having a common philological origin, we must next have recourse to the supposition that one nation borrowed the word from the other, and the idea of the Beni Israel at, say, B. C. 2000, having any means of communication with the authors of the Veda is out of the question.

That at an extremely remote pre-historical period, the ancestors of the Semitic race were identical with those of our own Aryan family is possible, nay, probable; but the acutest modern scholars, Gesenius, and Renan for instance, fail to find in Hebrew, more than the very faintest traces of a common origin. When the scholars quoted in Babu Rajendra Lal's note render *om* by *amen* they do so evidently merely as to sense, and do not imply that there is any radical affinity between the two words.

3rd. There is no authority for Mr. Blochmann's assertion that the initial *a* in *amen* is a softening, through an intermediate '*ain*', of a *k* initial. The whole process of derivation given by Mr. Blochmann appears to me to be fanciful and unsupported.

The word *amar*, 'to speak,' is by Gesenius, who is followed by most scholars, held to be another instance of an *aleph* prosthetic; so that the root is *mar*, which is a softening of *bar* 'to bear;' *mar* therefore means 'to bear,' 'to bring forth,' 'to bring out words from the mouth,' 'to speak;' hence in Arabic we get the sense 'to command,' which is derived from the earlier Hebrew sense, and is not, as Mr. Blochmann suggests, the original meaning: for, not to lay much stress on the improbability of the process by which the idea of 'establishing, commanding' is made to change to the idea of simple speaking, it may be noted that, in Hebrew, the idea of words as something carried or brought out of the mouth, is very common. Instances are the expressions *násá kol*, "he lifted up his voice" applied to weeping or singing, (Num. xiv. 1 and *passim*); also shouting; and lest it should be urged, that these expressions refer to raising the voice to a loud

pitch, I would refer to Exodus xxiii. 1; "*lo tissá shemá shávé*" thou shalt not utter a false report," where no idea of raising the voice can be entertained.

4th. The reference to the misty idea of the Rabbis proves nothing. The jugglery of those quasi-learned persons has long been looked upon by scholars as unworthy of attention. If the word *amen* were really a compound of "*Elohim melek nēmán*," which is, I suppose, what the Babu (or his authority rather) means, then any philological connection between the syllable *am* looked on as a radical Semitic syllable and *om*, falls to the ground at once.

"I think, therefore, that from a Semitic point of view, any connection between the two words is impossible, and the Babu's idea, that some mysterious importance was attached to *amen*, is a mistake. Amen is the Hebrew for "yes" and nothing more. The Evangelists often leave a word or two of our Saviour's native Syriac, when translating his sayings into Greek, and this is one; and from its being retained in the Gospels, it has come to form part of modern Christian ecclesiastical phraseology, but never had, or has, and probably never will have any mystic meaning.

JOHN BEAMES.

Mr. Blochmann's note in reply is as follows:

"Mr. Beames in his paper endeavours to correct a remark made by me some time ago on the word "*amen*," which Babu Rajendra Lal Mitra had compared with the Sanscrit *om*.

"Mr. Beames and I agree in three points:—

1. That there is no connection between *amen* and *om*, as proposed by the learned Babu.

2. That the original meaning of the biliteral root in *aman* is *supporting*.

3. That the ultimate roots of the Shemitic languages are *biliteral*.

"The point of difference between us is that Mr. Beames says, that of the triliteral *aman* the original biliteral root is *man*, the Aleph being accessory, whilst I still maintain, that the biliteral *am* is the ultimate root, the final *n* being the accessory.

"Mr. Beames does not appear to have seen this, because he misunderstood altogether the term "accessory." He advises me not to confound grammatical processes with radical ones, evidently under the

erroneous idea, that I considered the final *n* in *aman* as related *f. e.* to the *n* in سليمان, Gib'on (root gaba'), حيران from the root حار, or in ruhónó from rúh. But to mix up the etymological *n* in derivatives with the 3rd radical *n* in trilateral roots is a monstrosity, of which I certainly never thought. By an accessory, I mean that 3rd letter, which Mr. Beames and I do not consider as belonging to an ultimate biliteral root. I might have called it the modifier of the idea of the root. Thus the ultimate root ق, which people quote so often, has yielded many trilateral roots as قطع, قطر, قطل, قطم. In calling the م, ر, ل, ع accessories, I do not consider قطع as a compound or grammatical process (?) of the biliteral ق, but I maintain, that the syllable ق contains the general idea of cutting and that the accessories reduce the general idea of cutting to a particular kind of cutting. Thus the letter م, which we pronounce by closing our lips, superadds to every Shemitic verb ending in م, the idea of closing. The syllable ق means cutting generally, and قطم must combine the meanings of cutting and closing. On referring to the Dictionary we find that قطم is applied to cattle tearing off grass with their lips. (*Freytag: extremis dentibus prehendit et gustavit*).

"I trust Mr. Beames will now understand the term accessory or modifier. I need not here explain the modification produced by the accessory *n* in 'aman,' as Mr. Beames holds a different view. But I must ask Mr. Beames, to let me know the meaning of his prosthetic Aleph. For if it be a true axiom that language forms nothing uselessly, and if the syllable *man* be the ultimate biliteral root of *aman*, the first Aleph must exercise some influence on the general meaning of the biliteral *man*, which Mr. Beames will now have to explain. To call it a prosthetic Aleph merely, implies nothing, and is besides, to say the least of it, a misnomer. For the term prosthetic is given to the Aleph in افلاطون for Plato, *eshkól* a grape for *shkól*, &c., and is purely euphonic. But the syllable *man* is so easily pronounced, that no language on earth would put a prosthetic Aleph before it.

"Mr. Beames calls my proposed etymology, "fanciful" and "unsupported." I pass in silence over the former epithet, but I shall prove that the latter was applied too hastily. If Mr. Beames will kindly refer to the root כֶּשֶׁר כִּשְׁר in Gesenius' Lexicon, he will find it compared with, and of similar meanings as, עֲשֶׂה, יִשֶׁר, and אֲשֶׁר,

e. e. the syllable *kash* with the accessory r traced by Gesenius himself over an 'ain and a yód to an aleph, the same as I did with אַכְרֵּ He may also compare אָזַר, עֲמַר, כְּתַר and in general the remarks made by Gesenius under the letters כ, ע, ח &c. Mr. Beames' knowledge of Shemitic languages will also suggest to him examples like אֶרֶשׁ and عرس and عرش; أَعْزَرَ, حَصَر, قَاصِر, عُصْر, عُصْرُ, عُصْرُ, عُصْرُ, عُصْرُ, عُصْرُ; كَصُر and even, dialectically, كَصُر. Hence my views are not only not unsupported, but even supported by Gesenius himself.

“ Mr. Beames will now fall back on another remark made by him, viz. that the prosthetic Aleph is “ far more common,” than a final modifying *n*. In this case I would invite Mr. Beames to look into an Arabic Dictionary like the *مصاح* or the *صراح* or the nice “ Dictionnaire Arabe ” by Farhat, where the roots are arranged according to the *last* of the three radicals. He will be able to judge with his own eyes, that the number of roots ending in *n* is at *least* sixty times as great, as the number of the roots commencing with an Alif as given in Freytag.

“The question whether the ultimate biliteral root of *aman* be *am* or *man* involves the more important question of the value of the consonants in Shemitic roots, and the reduction of the latter to simple ideas arising from perception, or to onomatopœias. There is a probability even, that the root *aman* in its meaning “*nursing*” ought to be traced to ~~DN~~ mother, so that we would have an onomatopœia with an accessory *n*, whilst the other meanings might belong to the biliteral *am*.

"I pass over Mr. Beames' peculiar views regarding the age of the Pentateuch as a *whole*, which he places as far back as 1200 B. C., from which idea however modern critics have good reason to differ."

## II. BLOCHMANN.

29th July, 1866.

**The receipt of the following communications was announced.**

From C. Campbell, Esq. Notes on the History and Topography of the Ancient Cities of Delhi.

2. From P. Carnegy, Esq, through the Honorable G. Campbell ; Notes and Queries on the past history of different clans and races of "Oude."



3. From Lieut -Col. J. E. T. Nicholls, Officiating Secretary to the Government of India, Public Works Department. Further communications on the Earthquakes of the 23rd May last.

4. From Baboo Gopinath Sen " Abstract of the Hourly Meteorological Observations for April and May, 1866."

5. From D. Waldie, Esq., experimental investigations connected with the water supply to Calcutta.

6. Contributions to Indian Malacology ; No. VII. A list of species of *Unio* and *Anadonta* described as occurring in India, Ceylon and Burma. By William T. Blanford, Esq. A. R. S. M.

Mr. Waldie read some extracts from his paper on experimental investigations connected with the water supply of Calcutta, of which the following is an abstract.

Mr. Waldie commenced with some introductory remarks on the attention given of late years by civilized communities to subjects bearing on the preservation of health, and among these to the wholesomeness and purity of the water required for domestic use ; also of the special interest taken in this subject at the present time by the inhabitants of Calcutta, in connection with the supply of water for the town ; observing that though he himself had engaged a considerable time ago in an analysis of the water of the Hooghly, it was not at all in connection with this subject, but only as a contribution to general science ; but that some of the results obtained had induced him, on account of their local interest, to bring them under the notice of the Society. He then referred to Dr. Macnamara's report on the Hooghly water to the Municipality, stating that, in general, his own results went to confirm those of the Report : in some particulars, not of small importance, they differed ; and that in others he probably had added to the stock of information on the subject.

After glancing at the influence of the seasons on the river, the author referred briefly to the variations of the mineral constituents of the water at the different seasons, and the influence of the tides during the hot season. His own observations had been chiefly made on water from the river about two or three miles above the entrance of the Circular canal at the north of the town. They agreed generally with those of the Report referred to. For particulars and observations he referred his hearers to the paper, which would be published *in extenso*

in the Journal. He remarked on the great difference between the quantity of salt brought up by neap tides and by spring tides, the former bringing only about one-fourth of the salt the latter did : also on the difference depending on the time of tide, that being also great. The smallest quantity of salt was found at about the last two hours of ebb, and the first one or one and half of flood tide. Excluding the period of three or four months when the influence of the tides prevailed, the river water was on the whole purer, or contained less saline matter than that of any of the water companies supplying London as represented by the latest reports.

Attention was then directed towards the organic constituents of the water, which, with reference to sanitary considerations, were the most important impurities. Some remarks were made on the very incorrect processes which had been frequently employed by chemists for ascertaining the quantity of these, and the very unsatisfactory nature of the results. The process, however, had been improved of late, and with the aid of a fine balance, patience and care gave very fair results. By such means the author had determined the amount of organic matter in the river water at various seasons, but the results obtained were very different from those given in Dr. Macnamara's report, being very much smaller, more particularly in the case of the water in the hot season. On account of the difficulties attending the correct determination of organic matter by weight, a new process had of late come into favour, which was much simpler and easier of execution. This depended on the oxidising properties of the permanganate of potash. A weak solution of this, of known strength, was added with certain precautions to a measured quantity of water, until a slight shade of pink colour remained for a certain time. The purer the water, the less of the permanganate solution is required; the greater the quantity of this solution required, the more impure is the water; so that by delivering the solution from a graduated tube, the quantity required can be ascertained, and consequently the amount of impurity estimated, or rather the quantity of oxygen required to destroy it. This test does not indicate all the organic matter, only some kinds of it; but it acts on those kinds of organic impurities which have an offensive smell and destroys them. The results of the estimation by weight of the organic matter and of the amount of oxygen required by this test

were in pretty fair accord, and agreed in indicating most organic impurity in the water of the rainy season, decreasing continuously after the rains, as the season advanced. This decrease was not so well observed in the weight, which was indeed greater during May and June, but only to a small extent; and this, it was considered probable, might be rather apparent than real, and owing to practical difficulties in the process and the large quantity of saline matter from the sea mixed with the water. At all events, according to the author's results, the amount of organic matter in the river water on the 14th June last, at flood tide, at the extreme height of the hot season, was only from 1 to  $1\frac{1}{2}$  grains per gallon. These results were very different from those generally received, which supposed a minimum of organic impurity during the rains, gradually increasing, and during the hot season rising to eight, ten, or even more grains per gallon. But they were quite in accordance with the latest results of the examination of the London waters by Professor Frankland, who found that "the waters in question are much purer in dry than in wet weather, even if the drought occurs during a very hot summer." And on consideration it is found to be in accordance with what may be expected. During the whole dry season, both cold and hot, the products of vegetable and animal decomposition have remained in the soil and accumulated, but when the rains come they are washed off into the river, both in solution and suspension. When the rains cease, the impure mud subsides, and the oxygen, freely absorbed by running streams, oxidizes the organic matter in solution and purifies the water.

The nature of the organic matter was then enquired into,—namely, its vegetable or animal origin. The latter was considered the most dangerous kind, and the means of judging of its presence considered. The presence of Ammonia was considered a good indication of the existence of animal matter, and some examinations for determining its proportion had been made; the proportion in the Hooghly water was small. Other means of estimating the amount of animal matter indicated the same thing.

The question as to the extent of contamination of the river water during the hot season under tidal influence, by the sewage of the town was considered, and the author had come to the conclusion that at the very height of the hot season the water was no worse, as regards

organic impurities, or not so bad as it was during the rainy season. This conclusion, he considered, was supported by the result of some examinations of the tank waters, of which several had been subjected to partial analysis, and all of them, even the best, found to contain more organic impurity than the river at its worst. Their stagnant water was not subjected to the purifying influence of atmospheric oxygen as that of the running stream was.

The general conclusion arrived at by the author was that, if his results were correct, the river was a better source of supply than the tanks, and that probably the principal advantage of taking the water from Pultah was the avoidance of the sea water brought up by the tides during the hot months.

The following Books have been added to the Library since the meeting held in May.

#### LIBRARY.

##### *Presentations.*

\*\*\* The names of Donors in Capital.

Rig Veda Sanhita, ऋग्वेदसंहिता, by Professor Max Müller, Vol. IV.  
—THE BENGAL GOVERNMENT.

Erster und Zweiter Jahresbericht des Vereins für Erdkunde zu Dresden.—THE GEOGRAPHICAL SOCIETY OF DRESDEN.

Erster Jahresbericht des Naturwissenschaftlichen Vereins zu Bremen.—THE SOCIETY OF NATURAL SCIENCE OF BREMEN.

The Introduction of Chinchona cultivation into India, by C. R. Markham, Esq.—THE AUTHOR.

Address of the native nobility and gentry of Lahore to the Hon'ble F. D. McLeod; and his reply.—THE PUNJAB GOVERNMENT.

The Punjab Educational Magazine, Vol. I., Parts 11 & 12.—THE SAME.

The Isothermal and Meteorological Chart of India and High Asia, by Profr. H. de Schlagintweit.—THE INSPECTOR GENERAL MEDICAL DEPARTMENT.

Annual Report (Fifth) of the Agri-Horticultural Society of Oudh.  
—THE SOCIETY.

Gayá Māhātmyam, गयामहात्म्यम्, by Tārāchānd Sharmā.—BABU ISHÂN CHANDRA BOSU.

Census Report of Calcutta, for 1866.—THE BENGAL GOVERNMENT.  
Sketches of the Shevaroy and Pulni hills, by Lieut.-Col. D. Hamilton.—THE MADRAS GOVERNMENT.

List of vertebrated animals living in the gardens of the Zoological Society of London.—BABU RÁJENDRALÁLA MITRA.

Selections from Papers on Indigo cultivation in Lower Bengal.—BABU RÁJENDRALÁLA MITRA.

Catalogue of the Central Library, Roorkee Civil Engineering College, by H. B. Medlicott, Esq.—THE ROORKEE COLLEGE LIBRARY.

Ajunta Inscriptions, by Dr. Bhaudaji.—THE AUTHOR.

Sah or Rudra Dámá Inscription on a Rock at Junagur; also of one of Skandagupta on the northern face of the rock.—THE SAME.

Catalogue of the Meteorites in the Museum of the Geological Survey of India.—THE SUPERINTENDENT OF THE GEOLOGICAL SURVEY OF INDIA.

The Sacred Books of the Buddhists, compared with History and modern Science, by S. Hardy, Esq.—THE AUTHOR.

Summary of Information regarding Ceylon, (a chart,) compiled by A. M. Fergusson, Esq.—THE COMPILER.

Veiviser ved Geologiske excursions i Christiania Omegn, von Profr. L. T. Kjerulf.—THE AUTHOR.

Om Vægtlodderne i Nummelandsfundet, af Profr. C. A. Holmboe.—THE AUTHOR.

Om guul og rød Jord i Gravhøie, af Profr. C. A. Holmboe.—THE AUTHOR.

Om de i Norge Forekommende fossile dyrelevning fra quartærperioden, af Dr. M. Sars.—THE AUTHOR.

Norges Ferskvandskrebssdyr, von M. G. O. Sars.—THE AUTHOR.

Norges Mynter i Middelalderen, von Profr. C. A. Holmboe.—THE AUTHOR.

Maps of Jamo, Kashmir and adjacent Districts; North Eastern Frontiers of Bengal; District of Jhelum and Rawal Pindee; and the Central Provinces.—THE SURVEYOR GENERAL'S OFFICE.

Statements of Weekly Meteorological Returns in the District of the North Western Provinces.—THE GOVERNMENT OF THE N. W. PROVINCES.

The Indian Museum and the Asiatic Society of Bengal.—BABU RÁJENDRALÁLA MITRA.

# PROCEEDINGS

## OF THE

### ASIATIC SOCIETY OF BENGAL,

FOR OCTOBER, 1866.



The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 3rd October, at 9 P. M.

A. GROTE, Esq., in the Chair.

The proceedings of the last meeting were read and confirmed.

The following presentation was announced:—

From Professor R. Schlagintweit, 100 copies of the Chart of the Meteorology of India, for distribution.

The following report of the Philological Committee recommending the publication of the *Āyin-Akbary*, was read; and adopted by the meeting.

#### REPORT.

The Council beg to report that they have made arrangements for the publication of a new and carefully collated edition of the *Āyin-Akbary* in the new series of the *Bibliotheca Indica*.

The materials available for the work consist of nine MSS., viz.:—

1. A MS. belonging to Nawab Ziyáuddín
2. A MS. belonging to Colonel Hamilton.
3. A copy of the lithographed Delhi edition.
4. A copy forwarded by Mr. Ward.
5. A copy (parchment) belonging to the Asiatic Society.
6. Do. do. do.
7. Do. do. do.
8. Do. do. do.

9. A copy belonging to Sayyid Faqíruddín. No. 2, is an old and very valuable manuscript, supposed to have, at one time, belonged to the Emperor Shah Jehan.

The cost of printing the work has been estimated at Rs. 9,000, more than half of which will be covered by a special grant of Rs. 5,000, which has been sanctioned by Government, on condition of the Society placing at its disposal 250 copies of the book when completed.

It will be edited by Mr. H. Blochmann, under the superintendence of the Philological Committee.

By order of the Council,

RÁJENDRALÁLA MITRA,

*Phil. Secy. Asiatic Society.*

27th August, 1866.

The following gentleman was nominated for election as an Ordinary Member at the next meeting :—

Kumár Harendra Krishna Báhádúr ; proposed by Bábu Rájendralála Mitra, seconded by Mr. Grote.

Bábu Rájendralála Mitra read the following remarks on the papers by Messrs. Beames and Blochmann on “Om” and “Amen,” submitted at the last meeting.

“I had expected to have been present at the Society’s meeting in September last, and to have made a few remarks on the papers, then submitted, from Messrs. Beames and Blochmann, on the etymology of the word *Amen* ; but I was unavoidably prevented almost at the last moment ; I take this opportunity, therefore, of noticing a few salient points in the discussion raised by those gentlemen.

In my observations on the subject in March 1865, I said that the facts then stated, led me “to the conclusion that the two are the same, or dialectic varieties of the same word, which the Hindus and the Hebrews either had in common before they separated into the two races, or which one of them borrowed from the other.” The facts to which I then alluded were the identity of the meaning of the two words ; their strong similitude in sound ; their origin (as it seemed probable to me) from the same roots ; and the mysterious importance attached to them by the races who use them. Mr. Blochmann, commenting on my observations, at the time, was not disposed to question the position I had assumed, and stated that ‘the Sanskrit “Om” may have had originally a final *n*, and also the meaning of an affirmative particle. If so, the syllable *om* alone would express this fully, so that we

need not lay a particular stress on the final *n* in *amen* and the *n* of the original form of the Sanskrit *om*.' (Proceedings for 1865, p. 48.) In his remarks on Mr. Beames's paper, he has, however, so far changed his opinion as to state that he agreed with Mr. Beames in thinking that "there is no connection between *Amen* and *Om* as proposed" by me. (Proceedings for 1866, p. 195.)

"Mr. Beames's arguments against me are based on the etymology and the meaning of the word *Amen*, which, he says, are not what I assumed them to be ; and if so, my conclusion must be wrong. According to him, the original Semitic biliteral root *man* with a prosthetic *a* forms *amen*, and as that is very different from the Sanskrit *av* of *Oman*, the two cannot be said to have come from the same root. This would no doubt have been a strong argument, had the derivation given by Mr. Beames been not open to question. Such is, however, not the case. The original of *amen*, says Dr. Johnson "has given rise to many conjectures," and even at the last meeting, two such distinguished scholars, as Messrs. Beames and Blochinann, were diametrically opposed to each other, one maintaining *am*, and the other *man* to be the original root. The Rev. J. Wenger, the most learned Hebrew scholar in Calcutta, and the Rev. Professor K. M. Banerjea wrote to me, when I consulted them in 1865, that *Am* was the root of *Amen*. Scaliger assigned to it an Arabic origin, and took *أمن* to be its radical. But the great body of Biblical commentators and lexicographers give the Hebrew *אמן* as the root of the Greek *αμην*, and consequently of the English *Amen*. Kitto, in his Cyclopædia of Biblical Literature, and Calmet, in the Dictionary of the Bible, are positive on the subject. None of them has attempted to go beyond the triliteral root. Anxious as I am to avoid confounding accidental phonetic similitude with radical connexion proved by strict grammatical analysis, I must observe that as regards *Amen*, everything beyond its triliteral root appears dark and undefined,—certainly not in a condition to justify any positive deduction. Under the circumstances, the question at issue must be decided by other than grammatical evidence. So far as mere sound is concerned, seeing on the one hand, that the triliteral root *aman* is as old as the Pentateuch, which, according to Mr. Beames, dates from at least 1200 B. C., and that a great many Semitic roots are



triliteral; and on the other, that the oldest form of the Sanskrit *om* is *oman*, and that the "Unádi Sutras" which make *av* to be its root, were designed to explain the origin of such words whose radicals could not be explained by the ordinary rules of grammar, leaving it thereby very doubtful whether *av* or any other syllable was the root of it, I cannot but think that there is sufficient similitude between the two words to justify the conjecture I have made.

The next argument in favor of a common origin of the two words is their meaning; and in that respect there is perfect identity. I have already shewn in my remarks in March 1865, that the Sanskrit *om* is a particle of assent and means "be it so," "be it confirmed," "so be it," from the original etymological meaning "to confirm," "to support," to uphold," &c. It also means "true," "truth," "verily," "yes," and "God." *Amen* in Greek and Hebrew has exactly the same meaning. Glass, in his *Philologica Sacra*, says of it: "radix אָמֵן in Niphal אָמְנָה significat firmum, fidum, stabile esse, verificari, confirmari, in Hiphil אָמְנָה credere, fidere," (p. 396). All the other authorities which I have consulted, supply the same meaning. Buxtorfius, in the *Lexicon Hebraicum et Chaldaicum*, has "אָמֵן veritas *Jes.* 65-16, inde transit in Fidentis et assentientis particulam *amen*, *Deut.* xxvii. 15, quasi dicas, 'Firmum, Rite est, Vere, fiat.' In *Novo Test.* ubi in principio sententiæ adhibetur, transit in naturam adverbii, et notat asseverationem, reique confirmationem." The different passages from the Bible quoted in Cruden's "Concordance" point to the same meanings.

The circumstances too in which the two words are used are identical. The use of the word 'amen' after imprecations in *Num.* v. 22 and *Deut.* xxvii. 15, et seq. has its counterpart in the *om* in the Bhuteah malediction against the English, the translation of which led me to notice the identity of the two words. It would be easy to point out many other instances of the use of *om* after imprecations. After prayers, *om* is as universally used by the Hindus, as *amen* by the Christian Churches.

"As to the mystic importance attached to the two words, it is well known that the Hindus hold their *om* in the highest veneration as an emblem of the Deity, and in *Isaiah* lxxv. 16, the expression, "God

Amen," or "God of truth" has as close a resemblance to "Om the God" or "God Om" of the Sanskrit as possible.

"Mr. Beames emphatically declares that Amen 'never had, nor has, and probably never will have, any mystic meaning.' The fact, however, that the Rabbis did derive the word from the initials of *Adonai Melech Neeman*, and did assign to it the meaning *Dominus Rex fidelis*, is sufficient evidence to shew that it once had been used in a mystic sense. The use of it bodily in all translations of the Bible is another proof that more is assigned to it than could be expressed by a translated term.

"It has been said that the translators of the Bible left a few Hebrew words, such as *Hosannah*, *Hallelujah*, untranslated in the Greek, and *amen* was one of them. But that would not sufficiently account for its presence in translation in the modern languages of Europe, and in Bengali, Uriah, Hindi, and a host of other foreign languages. If the word meant simply "yes," or "be it so" and no mysterious or uncommon theological importance was attached to it, it would be strange to suppose that none of the many hundred dialects into which the Bible has been translated could find an equivalent for it. No word could be more universal than that which implies "yes," and if it were sought, it would be found most easily in every language on the face of the earth. It is worthy of note also that *amen*, when used adverbially for "verily," or as an adjective, is always translated, and that only when used after prayers and imprecations it is allowed to stand in its original form. Nor is a reason wanting for this diversity. The Greek and Latin Churches admit that they observed more energy in the word than they could find in any other, and St. Jerome says, 'that at Rome, when the people answered Amen, the sound of their voices was like a clap of thunder.' *In similitudine celestis tonitru* *Amen* *reboat*. The Cabbalists too, 'according to their usual manner of finding a hidden meaning in words which they call *notaricon*, out of the letters of *amen* found the whole phrase *Adonai Melech Neeman*.' (Rees's Cyclopædia, s. v. Amen.) No doubt the word existed long before the Cabbala and the Cabbalists, but as I allude to them to shew that it was at one time used in a mystic sense, and not in support of anything as to its etymology, the whole of the argument contained under the 4th head of Mr. Beames's paper is thrown away.

The question at issue is, whether or not the two words had ever been used in a mystic sense ; and it is abundantly evident that at one time in their history they were.

“ The argument embraced in the remark that ‘ the idea of Beni Israel at, say 2,000 B. C., having any means of communication with the authors of the Vedas is out of the question,’ is equally thrown away. My hypothesis is, that at a time anterior to history, when Beni Israel and the Aryans lived in a common home or were next door neighbours, that they got the word, and the more primitive times we go to, the more favourable would it be to my theory. To meet it by saying that it was ‘ out of the question,’ is not to meet it at all.

“ I admit that my hypothesis is thrown out as a mere conjecture, for of times before B.C. 2000, we can have, in a matter of this kind, nothing but conjectures, only more or less probable according as they are based on premises more or less consistent ; and I shall not deny that as yet philological researches have not found more than a few faint traces of a community of origin between the Semitic and the Aryan ; but Bunsen, Max Müller and a number of other distinguished philologists are in favour of the theory which would assign a common origin to the two languages, and therefore the fact can no more be used as an argument on the one side than on the other.”

The following communications were announced :

1. From the Assistant Secretary Government of Bengal further communications on the Earthquakes of India.
2. From Baboo Gopinath Sen, Abstract of the Hourly Meteorological Observations taken at Calcutta for June, 1866.
3. From D. Waldie, Esq., Supplementary Observations to experimental Investigations connected with the water supply to Calcutta.

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The Report on Barren Island received from Major Ford, and acknowledged at the meeting held on the 4th July, 1866, was read, as follows:—

In accordance with instructions received, we embarked on board H. M.'s Steamer “ Prince Arthur” on the evening of the 18th April, steamed towards Barren Island, and were lying off it by daybreak next morning. We at once landed the coolies we had brought with us, as also their rations, water, &c. and proceeded to examine the Island.

FODDER.—We found an abundant supply of good fodder: grass of two kinds principally, (some *Andropogon* and *Pogonatherum crinitum*) growing generally over the Island, excepting the parts covered with lava and scorïæ from the volcano. Arrangements were at once made to cut down and take on board as much as possible, and with the sixty coolies we had, we were able, during the two days we lay off the Island, to ship what was estimated to be about a month's supply for the whole of the cattle in the Settlement.

\* \* \* \* \*

GENERAL DESCRIPTION OF THE ISLAND.—The Island is of an irregular circular form, the greatest diameter of which is about two miles; in the centre of the Island is a regular cone of grey ashes, which from a distance looks quite round and smooth, with no vegetation of any kind\* on its surface; and from its apex, during the whole of the time we were there, clouds of white watery and sulphurous vapours were evolved. Around the base of the cone is an annular valley enclosed by a circular wall, the inner sides of which are smooth and regular, with a slope of from 30° to 40°, but the outer sides are more rugged, and send irregular spurs towards the sea. The height of the surrounding wall varies: towards the south-west, it is a little higher than the cone, but throughout the most of its circuit it is lower, and towards the western part of it, there is a gap, through which the lava seems to have flowed into the sea and formed a small Bay, which we found the only practicable landing-place. Across the small Bay, there issued, from underneath the lava, a series of hot springs mixing with the water of the sea, which at many places was quite hot; at low tide, in one place where vapour was arising, the temperature of the water, where it was seen to bubble up, was found to be 163° F. and at another 158° F. Surrounding the base of the cone, the valley is filled with black irregular masses of lava, which seem to have run in a stream towards the gap, through which it found an exit. Between the black masses of lava and the outer wall, the valley is covered with long bamboo grass, and the soil seems to be sand mixed with ashes, while the slopes of the outer wall afford the other description of grass discovered (*Pogonatherum crinitum*).

WATER.—No water of any description could be found on the Island. An attempt was made to dig a well, but by the time they had

got six feet deep, the men could not stand the heat ; so we were obliged to give up the attempt. It seems doubtful whether any cold water could be procured, but we have no doubt that hot springs of fresh water might be discovered, especially as the sea water at the part where the hot springs issued, was only slightly brackish.

**ROCKS.**—The whole of the rocks of the Island seem igneous basaltic rocks of different colours,\* of which several specimens have been brought ; and the lava is composed of the same material as the substrata of the Island ; the only difference that could be discovered being caused by the action of fire.

**VEGETATION.**—No trees of any height were discovered, but the slopes and ridges afford an abundance of shrubs and brushes, some of them rising to the height of about twenty feet. We had no time to wander into the wooded part of the Island, so that we were unable to collect specimens of the shrubs, but after being accustomed to the one tinted jungle of the Andamans, we were very much struck with the beauty and variety of the foliage of the shrubs and brushes, the different shades of green varying from a very dark almost black to a very pale yellow, having a very fine effect when the setting sun shone upon them.

**ANIMALS.**—The great scarcity of animal life on the Island was noted ; no trace of any mammal was discovered, except a few Rats, which some of those who slept on the Island saw, but were unable to catch.

Birds were rare—a few Sea Gulls, Sea-hawks and Swallows were seen, and one or two small birds were noticed perched on a shrub, but we could not get near enough to see what they were. Even amongst insects, the only ones seen were ants and moths.

**CONE.**—Nearly the whole of our party attempted to ascend the cone, the inclination of whose sides is about  $40^{\circ}$ , and it was with some considerable difficulty that we were able to reach the top. The lower part of the slope is loose ashes mixed with large stones, which rolled down on being touched ; and these constitute the chief danger in the ascent, as great care must be taken that they do not fall on any one coming up behind. The north-west side of the cone was found to be the easiest of ascent, and became easier as we got higher, the loose ashes becoming less, and the stones becoming adherent by the lava or gypsum poured between them. For the last 100 feet or more of

the ascent, the surface was quite hot, and the quantity of gypsum had increased so much as to give the surface a whitish appearance; and at several places were deep fissures, from which a whitish vapour was evolved and sulphur deposited around the openings.

On arrival at the top, we noted, under the shade of an umbrella, the change in an Aneroid Barometer and a Thermometer we had taken along with us; and the following was the result, from which we deduce that the height of the cone is as nearly as possible 980 feet.

	Time.	Thermometer.	Barometer.
At level of the Sea	6.30. A. M.	82° F.	30.126
At top of the Cone	7.45. A. M.	88° F.	29.145

The top of the cone presented on a minor scale the appearance of the outer wall of the Island: so after we had reached the top, we had again to descend about 20 feet into the circular crater forming the centre of the cone, in which two white crystalline masses were discovered, which appear principally to be composed of sulphate of Lime. These, as well as a few bags of sulphur, we brought down with us.

**SULPHUR.**—The quantity of sulphur was very small, and only found around the mouths of the deep fissures, from which the vapour exuded, and far too small in our opinion to be made of any practicable use.

After we had descended the cone, on the morning of the second day of our stay, it was determined to steam round the Island to look for an anchorage, and in the evening to take on board what fodder had been sent, and then to return.

We brought from Port Blair with us a number of cocoanuts, plantain trees, and pineapple cuttings, and these we planted on the ground from which the grass had been cut, in hopes that they might be of use to some future visitors.

**ANCHORAGE.**—In steaming round the Island, the lead was kept going, but from the deep dark blue appearance of the water it could be judged that there was but little probability of obtaining an anchorage. The only place where there seemed any chance, was on the south-west, where a small sandy beach, with a heavy surf running, was discovered, above which four old cocoanut trees were seen. A boat was sent towards the shore, and got bottom at 35 fathoms, but as we had not much time to spare, the whole of the ground could not be

gone over, and if any use is to be made of the Island, the soundings around the south-west part might be more minutely examined.

**BURNING GRASS.**—Before leaving, we set fire to the grass which was uncut, but unfortunately, immediately after, a heavy shower of rain fell, which must have extinguished the fire in the valley, although we saw it running up the hill sides long after we left.

By evening of the 20th, all had re-embarked, and we steamed slowly towards Rose Island, on which we had determined to land on our way back, for the purpose of planting some cocoanuts, as well as of seeing the Island.

**ROSE ISLAND.**—We anchored off the Island next morning, and went on shore after breakfast; and while some of us were employed planting cocoanuts, the others examined the Island.

The Island lies low, and is but thinly covered with jungle; the soil is sandy, or a gravelly clay loam, not unlike the soil in some places on Barren Island. On wandering along the beach, we discerned growing here and there patches of grass of the same kind as grows in the circular valley on Barren Island, and it at once occurred to us, that if the Island was cleared, it would soon be covered with grass, and would make a good dépôt for the cattle of the Settlement.

If the above idea should meet with little approval, we would suggest that the whole of the Island, except a circular belt around the Coast be cleared: and to assist the growth of the grass, which we have no doubt would be natural, a quantity of seed procured from Barren Island might be scattered. Good anchorage is found all round the Island, and as it is only twenty miles from Port Blair, we think it might be turned to advantage.

#### LIST OF SPECIMENS ACCOMPANYING THE REPORT ON BARREN ISLAND.

No. 1. Grass found in valley, a species of *Andropogon*, no flowers found to show species.

No. 2. Grass found on the slopes of the Hills; *Pogonatherum crinitum*.

No. 3. Twelve specimens chipped off from various rocks which seemed to differ somewhat in colour.

No. 4. Black lava found around the base of Cone (4 pieces).

No. 5. Sand mixed with ashes thrown up by volcano.

No. 6. Six specimens of a mixture of gravel and sulphur found in top of Cone.

No. 7. Crystallized sulphur.

No. 8. Sulphur as found around fissures near crater.

No. 9. Several specimens of lava or gypsum, found on top and sides of cone.

No. 10. Two white masses found in the centre of the crater; supposed to be principally composed of sulphate of lime.

No. 11. A sample of a red earth found on the Island.

No. 12. Samples of conglomerate.

No. 13. Stones thrown up by volcano.

No. 14. Specimens of shells found on rocks. Shells (excepting the common rock cowrie) were rare, on account of the steep dip of the rocks.

No. 15. Coral found near hot water springs, having a yellowish colour when taken out of the water.

Signed A. GAMSEKS, M. D.

ARTHUR F. LAUGHTON, *Lieut.*

*Sub-Assistant Commissary General.* } *Members of Committee.*

J. N. HOMFRAY,

*Harbour Master.*

(Signed) J. H. FRASER, *Captain,*

*Port Blair 23rd April, 1866. Assistant Superintendent in Charge.*

(True Copy)

W. FORD, *Major.*

*Supdt. Port Blair.*

On the invitation of the Chairman, Mr. Medlicott undertook to report upon the specimens forwarded with the Report.

Mr. D. Waldie read his supplementary note on the composition of the water of the Hooghly. The following is an abstract.

Mr. Waldie began by reminding the Society that in his paper read at last meeting he had pointed out a very considerable discrepancy between his own results respecting the amount of organic matter in the river water, more particularly during the hot season, and those of the Report to the Municipality then referred to, and it was a matter for consideration how they were to be accounted for or reconciled. It had been suggested that a difference might have been occasioned by the



length of time the water had been kept after collection before the analyses were made, as high chemical authority could be adduced for the necessity of commencing the analysis without delay. Now he could not but admit that there had been more or less delay in commencing the analysis of the greater part of his samples, as he was not aware that such conclusions had been arrived at; and he had himself, from consideration of the great exposure that surface waters supplying a river had already undergone, rather formed the opinion that the decomposition of the organic matter would probably have pretty well reached the maximum, so as not to leave much room for further decomposition. His own observations had confirmed him in this so far as extended keeping was concerned; but as there possibly might be a certain amount of rather rapid decomposition during the first week or two which he had overlooked, it appeared desirable to endeavour to ascertain the truth of this or otherwise, if possible. With that view he had, during the last month, made a considerable number of experiments and analyses.

The plan of testing by the oxidising action of permanganate of potash offered the readiest means for doing so, and this certainly indicated a distinct diminution of the amount of oxidizable matter, and a rapid one too, occurring even within the first twenty-four hours. But though the diminution was considerable, sometimes one-third or one half of the whole amount, yet the absolute quantity was small; and besides, this mode of testing gave no reliable information respecting the quantity of all the organic matter, which was the point at issue, and which could only be determined by ascertaining its weight.

As the question principally had reference to the water of the hot season, and of course no recent water of this kind could be procured, mixtures were made to imitate it, from samples of hot season water which had been kept, with additions of portions of sewage water. Such were prepared and the organic matter in them determined immediately, and afterwards at an interval of 12 or 14 days. A diminution was found to have taken place, but to a comparatively small extent, even though it was found that a considerable degree of putrefaction took place in them. But these mixtures, though containing from  $\frac{1}{4}$  to  $\frac{1}{2}$  of sewage, contained only from  $1\frac{1}{2}$  to  $4\frac{1}{2}$  grains organic matter per gallon; and yet, from their smell and other properties, it was quite impossible that the river water could be at all like the two worst of them. Be-

sides, comparing the sewage of Calcutta with the volume of water in the river, its proportion must be insignificant. An examination of some tank and river waters immediately after collection, and at about two weeks interval or longer, indicated the same thing, a loss of from about 10 to 25 per cent., which would not increase the author's estimates more than about half a grain per gallon.

Mr. W. further observed that perhaps a quotation of other results than his own might have more weight, and again referred to Dr. Frankland's analysis of the London waters for the largest amount of organic matter,—about  $2\frac{1}{2}$  grains per gallon,—found in the worst case ; and to the general observations of the Metropolitan Medical Officers of Health agreeing with Dr. Frankland's. He further referred to Messrs. Lawes and Gilbert's analysis of the sewage of Rugby &c., (in the paper formerly quoted,) who found in the river Wandle, after it had received the sewage of Croydon, little more than 2 grains per gallon of organic matter, and in the liquid part of the sewage of Rugby only from about 7 to  $8\frac{1}{2}$  grains of organic matter per gallon. So that if the river water in May and June contain about 8 grains organic matter per gallon, and this excess derived from the Calcutta sewage, it must be as bad during these months, in regard to organic matter, as the liquid part of the sewage of Rugby, a supposition in the author's opinion altogether incredible.

He further observed that there was no way of reconciling the discrepancy, (if there was no considerable error in the analyses,) but by supposing, during the hot season, the presence in the water of a considerable quantity of organic matter, possessing no bad smell, but capable of undergoing rapid decomposition. He could not deny the possibility of this, but had seen no reason to believe it, while he had reasons for thinking it highly improbable. The point could only be decided positively by further examination at the proper season. He intended to prosecute the investigation, and hoped at another opportunity to lay the results before the Society.

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Dr. Smith regretted that Mr. Waldie had not favoured the Society, at the close of his communication, with an epitome of the exact conclusions he had arrived at. The paper had been read on two different occasions—or rather two distinct essays had been read, with the interval of a month between them. Dr. S. hoped therefore Mr. Waldie

would excuse him if he asked : 1st. What was the exact result arrived at from all Mr. Waldie's analyses? 2nd. If Mr. W. felt satisfied that the observations now described, corroborated those detailed in his former communication? 3rd. What was the largest quantity of organic matter Mr. Waldie had at any time, either during the past month or previously, been able to detect in Hooghly water?

Mr. W. replied, 1.4 grs. of organic matter per gallon was the largest quantity he had detected.

Dr. Smith then expressed his opinion on certain parts of the paper.

He stated his belief that, to have accurate and precise knowledge of the quantity of organic impurities in any water, such water ought to be analyzed *without delay* after being drawn. He believed the fact was an accepted one among chemists, that *by keeping* the foulest water, its organic impurities in time disappeared to a great degree, if not altogether, by the action of the oxygen of the water itself.

Mr. Waldie's specimens had some of them been kept so long as four months, and none (?), had been examined within less than a fortnight of the time that they were drawn from the river. This might be regarded as a most serious objection\* to the value of the analyses that had been instituted by Mr. Waldie, and of the conclusions drawn from such analyses.

Again, if Dr. S. was right in understanding that Mr. Waldie had, during the past month, analyzed mixtures of various kinds of water which he himself had *artificially* produced, and that from these (as being certainly more tainted than our river water) he had arrived at the conclusion that our river water was comparatively pure, and indeed much more so than had been laid down by Dr. Macnamara—if Dr. S. was correct in these premises, he could not but regard such experiments as very inconclusive, inasmuch as what was wanted was simply an analysis of the river water recently drawn, (whatever might be its qualities) and not a table showing the composition of mixtures which Mr. W. had made up in his Laboratory—by adding to certain ordinary water a certain quantity of offensive fluid taken from a drain in town, and again a certain quantity of water from the impregnated Salt Lake.

Mr. Blanford had stated that he was led to understand that a source of fallacy might be attributed to the faulty manner in which Dr.

Macnamara had caused the specimens of the river water to be drawn, upon which his experiments had been made.

Dr. Smith said he had Dr. Macnamara's Report before him, in which the preliminaries of his operations were most plainly laid down.

*"The water was taken monthly, from the centre of the stream, at six feet below the surface, and from three stations, namely, from opposite Cossipore, Pultah Ghaut and Chinsurah."*

Dr. Smith thought the Society ought to be glad that so important a subject had been brought forward, one not of mere *abstract* scientific interest, but related to questions of very great practical importance.

It was note-worthy that the largest quantity of organic impurity at any time detected by Mr. Waldie was 1.4 of a grain per gallon, whereas the following was the result which had been arrived at by Dr. Macnamara with Cossipore water :—

*"As might be expected, the water during March, April, May and June, is largely intermixed with the saline matters of the sea-water and the sewerage of Calcutta, and during that time is unfit for human consumption. \* \* \* \* The saline contamination is not of such importance with regard to the use of Cossipore water for drinking purposes, as is the pollution which the water derives from the sewage matters, which the tide sweeps along with it. \* \* I found during last April, as much as 10 and 12 grains of organic impurity in the water." \* \* The organic impurity of Cossipore is highly nitrogenised, and while burning, evolves a strong and disgusting ammoniacal smell."*

Here is a grand discrepancy, the true cause of which it would be well that the Asiatic Society should try to discover. Dr. S. was inclined to believe that the fact of Mr. Waldie's experiments having been postponed after the drawing of the water to weeks and even to months, was sufficient to account for the difference in the results now contrasted. Dr. Macnamara's observations had extended over *fourteen* months, and he had used water freshly drawn.

The conditions under which Mr. Waldie had gone to work were quite dissimilar to these.

Mr. Waldie had said he thought it simply *impossible* that the water of the Hooghly could be impregnated with so much as from 5 to 8 grains of organic impurity in the gallon. Dr. Smith was disinclined

to regard this as an impossibility, the more so because Dr. Macnamara had actually succeeded, by most conscientious manipulation, in discovering at one time of the year, 12 grains to the gallon in the water at Cossipore. Dr. Smith observed that when he only thought of all the possible and actual sources of impurity in this river, the impossibility alluded to by Mr. Waldie vanished entirely from his mind. We must remember, he said, the incalculably vast sources of vegetable and animal adulteration occurring in the whole previous course of so large an Indian river. We must think of all its tributaries, and of the thousands of *nullahs* that carried into it pollution of every conceivable kind—dead and putrid animals, decaying vegetation and waste matter from populations covering vast areas. We must think of the contamination arising from the shipping alone, at and near Calcutta. We must recall the fact of there being, at the present moment, such things as floating Latrines for thousands of our famine-stricken paupers who find shelter close to the river bank. We must think of the *twenty-two* sewers that disgorge themselves into the river between Chitpore and Hastings' Bridge, and this within a tidal influence by which much of the impurity is kept in a state of oscillation and not effectually carried away by the current. Besides this, we must remember that very vast quantities of night-soil are deposited daily in the Hooghly, the quantity being 180 tons daily.\* If we think of all these impurities and couple them with the tropical conditions of heat and moisture in which they are found, it appeared to Dr. Smith not only not impossible, but even highly probable that there should be as much as 5 grains of organic impurity in each gallon of the water. Indeed the possibility might be said to resolve itself into a certainty, when we remember that Dr. Macnamara actually succeeded in discovering *twelve* grains to the gallon. Dr. Smith thought we were also justified in holding to a belief in such possibilities by *collateral* knowledge. He said it was well known that where organic impurities abound, Diarrhœa, Dysentery, Epidemic Fever and Cholera likewise abound. Here on the banks of the Hooghly they are rife; and much careful observation went to prove, beyond a doubt, that the excess of sickness from the diseases named arose from the fact of excessive

\* In the actual discussion Dr. Smith had erroneously stated the amount at 180,000 tons. Hence Babu Rajendra Lal Miter's remark see page 225.

and unusual organic impurity in the water of the river itself. The products of fœcal decomposition were known to be there in vast quantities, because the fœcal matter was systematically and daily deposited there, so as, if possible, to poison the stream.

Why this should be carried out above the town instead of below it was, Dr. Smith observed, a puzzle to him. He thought it a very unjustifiable Municipal arrangement and highly objectionable. •

Mr. Waldie had also described "crops and forests of vegetable matter" in some of his specimens. Were not these enough in themselves to account for a vast and unusual amount of organic adulteration? Dr. Smith thought this must be so, quite independent of similar impurities derivable from sources of *animal decay*.

Dr. S. said he could not help observing that Mr. Waldie himself had expressed very considerable uncertainty as to the value of his own results, and even as to the processes adopted, by which he had arrived at them.

This, Dr. S. was prepared to allow, was evidence of great candour on Mr. Waldie's part, who indeed, it must be allowed, had judged his own experiments very critically and severely. All this, however, was not capable of affecting the Tables now about to be published by the author of the present paper, and the relation of these to the remarkably different figures found in Dr. Macnamara's Report of the same analyses, conducted at the instance of the Calcutta Municipality.

Dr. Smith said he was not himself prepared to disprove that tank-water was less pure than Hooghly water; this was not the point he cared to discuss. On the other hand, he was quite ready to allow that water drawn from Pultah Ghat ought to be and is purer than that obtained under like circumstances at Cossipore, which is a good many miles lower down the river. But if he did not greatly mistake Mr. Waldie's meaning, the Society was now asked to accept these two broad facts:—

1st. That the water of the Hooghly is not so impure as it is usually believed to be, and as has been stated by Dr. Macnamara.

2nd. That it is fit for town consumption at all seasons of the year without greater danger than attaches to the impurities of the Thames, for example.

Dr. S. believed the Hooghly to be a most *unusually* foul and tainted

stream. We had proofs of this, already alluded to, in connection with the amount of prevailing disease—quite independent of difficult chemical analysis.

Dr. S. said he should like to see placards and sign-boards put up all along its banks, bearing the words *Poison—unmistakable active poison*; and he would even be glad to know that it was rendered penal for a person to drink of it, exactly on the principle of its being deemed advisable to punish those who might attempt to poison themselves with a solution of arsenic, or any other deleterious substance, which was likely to lead to fatal results.

With all due respect for Mr. Waldie's patient observations—to his unquestionable fairness and good faith in trying to place truth before the Society; with all proper regard also for those traditions of the Hindoos that would establish the sanctity and life-inspiring properties of the Ganges, Dr. Smith expressed the conviction that it is an indescribably unclean and revoltingly contaminated river, that it is a vehicle for every variety of excrementitious abomination—not only accidentally found in it, but wilfully deposited in its waters, and that its hygienic qualities are of the lowest possible standard.

He thought it very important that this fact should be acknowledged; otherwise the result of Mr. Waldie's experiments would go to prove that it is by no means an unusually tainted river, but, on the contrary, that it is one from which a sufficiently wholesome water-supply might be obtained on this side of Cossipore, an opinion strongly negatived—not only by all past Medical experience in the city, but also by the careful observations and published analyses of Dr. Macnamara. Two-thirds of the admissions into the Hospitals of Calcutta for cholera, Dr. S. remarked, came from the river. This in itself is enough to condemn the Hooghly as a most obnoxious vehicle of poison, because we cannot now evade the conclusion that, where we have excess of cholera, we have an unusual amount of organic impurity in the water used by the persons so affected,—this conclusion being in the present day considered *irresistible*, as a result of all the study and analyses gone into and published of late years in England, on the subject of cholera and its invariable association with organically unwholesome water.

Dr. S. said that the experience of man had gone, generally, to prove that the water of rivers near great towns was always unwhole-

some. It was this that had driven the Romans to bring water from the hills of the Campagna. It was this that had led the citizens of New York to conduct the river Croton from a distance of forty miles, through works which evinced great engineering talent and skill. It was this that had led to the last proposition that had been gravely made in England regarding the water supply of London, viz. that it should be brought from Ullswater—on the borders of Cumberland—two hundred and forty miles distant from the Metropolis. It was this that led Sir Hugh Rose, shortly before he left India, to throw out the suggestion that it might be advisable to supply certain of the larger Military stations of Upper India with water brought down from its clear and uncontaminated sources on the Himalayas.

The same experiences ought, Dr. S. thinks, to lead us to reject the notion that Hooghly water can in any sense or with any justice be said to be comparatively pure—when in point of fact it is absolutely impure from a mixture of vegetable decay, common salt from the sea brought up by the tide, and fœcal decomposition resulting from a thousand impurities of which we have direct knowledge.

In conclusion Dr. Smith begged to reiterate his objection to experiments and analyses conducted for the determination of organic impurities of water which had been kept for months or even for weeks.

He believed he was right in saying that such a mode of procedure would not be accepted as a reliable one by any Chemical Society in Great Britain or Europe.

Mr. Blanford said :—"There is a method of deciding the merits of rival and mutually discrepant statements of fact, well known in another arena of discussion, though I believe it is not common in Societies which busy themselves only with Science. It is to assume that the one, usually the more dogmatic statement, is absolutely and necessarily true, and to carry to the discredit of the opposite view, any admission of possible error, which may be made by a philosophical opponent, who considers that the best way to arrive at truth is to treat his own view as critically as that which he rejects. I cannot but think that it is somewhat in this manner, that Dr. Smith has discussed Dr. Waldie's paper. Dr. Macnamara's report being prepared for the information of legislators, who wish for results, and not for a critical discussion of the means pursued to obtain them, is necessarily somewhat dogmatic



in form, and omits a great number of details, which he would no doubt have given, had his paper been prepared, like that of Dr. Waldie, for a scientific body. But it by no means follows that his results can therefore lay claim to greater confidence. I think indeed that, as a general rule, one would rather be inclined to attach most weight to that statement which is made most cautiously, and displays most sense of possible error. And in the particular case under discussion, if I rightly understood some remarks made by Dr. Macnamara, at the close of our last meeting, there is an important part of the evidence adduced in Dr. Macnamara's report, upon which further information is necessary, before we are in a position to form an opinion on the trustworthiness of Mr. Waldie's and Dr. Macnamara's results respectively. Unless I am greatly mistaken, Dr. Macnamara stated, that he could not hold himself responsible for the sampling, but only for the analyses. The statement in Dr. Macnamara's report, quoted by Dr. Smith, must not therefore be taken as expressing more than that, at the time of writing, Dr. Macnamara had no reason to question the accuracy of statements that had been made to him. But now that there is a discrepancy, and a very important one, to be cleared up, before we can pronounce any opinion on the amount of organic matter in the Hooghly water, we should I think be informed whether Dr. Macnamara's specimens were taken from the river, in scrupulously clean bottles, and by a conscientious and careful sampler in the manner stated; or whether, by a bare possibility, some lazy cooly or chaprassee, having received his instructions, may not have found that time and trouble as well as certain pice entrusted to him for boat-hire were saved to him, by taking the water from the edge of the muddy river bank. I do not of course state that such was the case. I merely suggest the point as one on which more evidence is desirable, before any decision can be arrived at.

“Dr. Smith attaches great weight to the fact that 180 tons of night-soil are poured daily into the river, and thinks Mr. Waldie's analyses quite irreconcilable with this fact. I cannot myself see that the facts as stated, would in any way prejudice Mr. Waldie's results, nor would they do so, were the quantity of night-soil ten times as great. The question is one of proportion, and until we know the volume of water discharged by the river, we are quite unable to found any argument

upon the mere quantity of night-soil discharged into it. Even if there be 180 tons a day, 10,000 times that amount of water does not seem an improbably excessive discharge for such a river as the Hooghly.

"I do not see that any other argument of Dr. Smith's is by any means conclusive. There is no *a priori* improbability in the water being bad and not fit for human consumption, even though it contain no more than 1-4 grains of organic matter per gallon. The unhealthiness of the water is *one* question to be decided by evidence, that of the number of grains of organic matter per gallon is quite an independent question, which can best be decided by means similar to those adopted by Dr. Waldie."

Bábu Rájendralála Mitra said that he did not wish to take a part in the discussion as regards the merits of the different analyses of the Hooghly water by Drs. Macnamara and Waldie, but he could not help observing that the line of argument adopted to impeach Dr. Waldie's analyses was not a fair one. The great disparity between the results of the two learned chemists was certainly startling, and suggested the necessity of further enquiry; but that enquiry should be conducted solely and exclusively through carefully conducted rigid analysis, and not by *à priori* arguments which proved nothing. No doubt the sewers of the town discharged a large amount of filth into the river, and there were other sources of contamination equally or more potent; but the river was not a closed vessel, and the law of proportion could not apply to it in any way. Mr. Blanford had very correctly pointed out (the Bábu said) that, notwithstanding the oscillation caused by the tides, the river discharged an enormous volume of water every minute into the sea, and as long as the relation it bore to the total quantity of filth daily thrown into the river was not ascertained, the rule of proportion suggested by Dr. Smith could only serve to mislead. Then a large quantity of filth was being constantly changed by exposure to the atmosphere, and the pure oxygen contained in the water, and its ratio had to be ascertained. Then again the fishes, the molluscs, the crustacea, and the infusoria—the myriad millions of animals—which inhabit the river, live and fatten mainly on the sewerage of the town, and as long as the quantity consumed by them was not ascertained, one most important element in the calculation would remain undetermined. The fact, however, was that rivers were

the great natural drains of a country, and designed expressly to carry away its surplus waters and its sewage to where they became the least offensive, and at the same time, most useful in the economy of nature. The Hooghly in this respect was not worse off than the Thames, the Seine, the Rhine, or the Meuse in other countries. They were the best of sewers, and they served their purpose most effectually. To expect that masonry drains would do it better, is to expect that irrigation from wells would supersede the rains. Their waters were no doubt foul, and they could not be otherwise; but Dr. Smith was evidently misinformed as to the quantity of night soil daily thrown into the river before Calcutta. It could not possibly be 180,000 tons, for that would be equal to forty-eight lakhs of maunds a day, or taking the population of the town at four lakhs, the number ascertained by the last census, it would be twelve times the number or over sixteen times the weight of the whole population. Admitting, however, that there is a large amount of filth in the waters of the Hooghly, resource should be had to chemistry and not to argument, to ascertain its extent.

As to the unwholesomeness of the Hooghly water, Dr. Smith had (the Bábu thought) drawn a rather high coloured picture. The experience of ages had convinced the Hindus that the water of the river for most part of the year was infinitely more wholesome than that of tanks, and they generally incurred heavy expense in bringing river water from a distance for drinking purposes, rather than take the water of tanks from their doors. Had that water been so loaded with the seeds of cholera and dysentery—so potent as an active poison,—as Dr. Smith would make us believe, they would have certainly suffered more severely than they do. The death rate of Calcutta was no doubt high, but it was not higher among the Hindus, most of whom drank the river water, than among the Mahomedans and Christians who eschewed that source of supply. This fact was the other day most pointedly illustrated at the Small Pox Hospital at Chitpur, where Dr. Chuckerbutty found that his Hindu patients who obtained their water from the foulest part of the river opposite Chitpur, suffered less from diarrhoea and dysentery than his Mahomedan patients for whom he obtained water from a tank called Bábu's Tank, the best in the neighbourhood. These were facts which could not be set aside by allusion to the prevalence of cholera among sailors, for Jack

ashore was exposed to many sources of disease a great deal more powerful than the waters of the Hooghly.

Mr. Waldie gave explanations and replies to the several speakers, of which the following were the principal ;—

The principal difference between stagnant and running waters was, that in the former the fermentative or putrefactive process tended to be the prominent one, and yielded products which exercised a deoxydating influence, and therefore required a greater quantity of oxygen when tested by the permanganate. In running streams again the process was more of an oxydating one, from the much larger amount of surface exposed to the air.

But the question at issue was, the amount of organic matter by weight. He did not consider that the delay in examining some of his samples could materially affect the correctness of his results, except possibly in the case of the December and February waters, which had stood over three or four months ; though even in these, judging from observations he had made, there was not probably any great error. But he would put these aside, as the point in question had reference to the water of the hot season and of the rains. The formation of vegetable growth in the bottles was very striking, and illustrative of the excess of organic matter, in the earlier part of the rains more particularly, which very decidedly exceeded that in the water of the end of the hot season. There was no great delay in examining the hot-season water : that of 14th June, at the very end of the hot season, was examined only nine days after collection, and gave only  $1\frac{4}{16}$  grains organic matter per gallon, being the largest amount found in the water of the hot-season. The water of the rainy season stood about a month in the earlier samples, waiting till it settled, as the presence of the finely divided clay, which could not be separated by filtration, was a great difficulty in the way of estimating the organic matter, and though this could be removed easily, the processes required made the subsequent determination of organic matter of doubtful accuracy.

He would not enter into the conclusions drawn from medical statistics. His business at present was simply to state his results, and leave it to the medical men to drawn conclusions from them. His object was to supply correct data.

Mr. W. further remarked that in this evening's paper, he had subjected his own results to a very rigid scrutiny: he had given dates, while he knew nothing of the time at which other analyses were made, except that probably they were made "as soon as possible," not a very definite expression. But he intended to prosecute the subject, and should be quite ready to correct anything in his past result, which further investigation failed to confirm.

Mr. W. T. Blanford exhibited a large series of worked agates, of the early-stone period, from Central India, and offered the following remarks.

"The specimens of agate implements now exhibited were collected by the late Lieutenant Swiney, in the neighbourhood of Jubbulpoor, and we are indebted to Mr. H. Rivett-Carnac for the very fine and interesting series before us. Two specimens from the same collection were exhibited at the meeting of this Society in April 1865, and a note upon them, by Lieutenant Swiney, was read at the same time. (Proc. As. Soc. Bengal for 1865, p. 77.)

"Mr. Rivett-Carnac has now very kindly given us an opportunity of examining the bulk of the collection, and of figuring some of the specimens. They belong to two classes, one of which exactly represents the flakes so frequently found associated with human remains of great antiquity in Europe: the other is, I believe, comparatively rare, although specimens have been found, especially in the Kjekkenmøddings of Denmark, and at the April meeting of last year, my brother pointed out the resemblance of the first two specimens received from Central India to some of these *cores*, as they have been termed.

"The flakes are, for the most part, similar in form to those found in Europe. Some are pointed, others blunted at the end, and it is probable that the former may have been designed for piercing, the latter for cutting. Besides the lengthened oblong flakes, there are others of much broader form, but judging from the relative proportions in the present collection, they must have been much rarer. (Pl. III., figs 1, 2, 3.)

"The *cores* are by far the most interesting portion of the collection. They are of two principal forms, subconical and subprismatic. Irregular blocks, from which flakes have been split, also occur in considerable numbers. They may always be identified by having a num-

ber of faces nearly plane or slightly concave, of considerable length in comparison to their breadth, and in general parallel to the longer axis of the block.

“ The subprismatic cores (Pl. II., figs. 1-4, Pl. III., figs. 11, 12) approach most nearly to those represented in European works. (Compare Lubbock's *Prehistoric Times*, Pl. X., fig. 6, and fig. 61, p. 65.) Many of the Jubbulpoor specimens, however, are far neater, a circumstance perhaps due to the greater homogeneity of the material. The sub-conical forms (Pl. II., figs. 5-12, Pl. III., figs. 8, 9) are, however, the most curious. I have seen no figures of similarly shaped cores from Europe. Many of the present specimens are so beautifully shaped, and the facets forming them are so regular and equal, that it is difficult to avoid the impression that these little cones were the objects desired by the manufacturer, and that the chips were merely accidental. Both Lieutenant Swiney and Mr. Rivett-Carnac adopted this view, looking upon the prismatic and conical forms as arrow heads or lance heads respectively; and Mr. Rivett-Carnac ingeniously suggested, in a paper published in the *Nagpoor Journal*, that the imperfect notches seen on many of the specimens were intended to be fitted into a hollow bamboo or reed, that the locality at Jubbulpoor was a great manufactory, and that the specimens we now find are the failures, not the finished weapons. To this opinion it may be objected; 1st, that some of the specimens found (*e. g.* Pl. II., fig. 1, and Pl. III., fig. 4) do not appear at all to be shaped into any form available for a weapon; 2nd, that every gradation is found, from the most perfect cones to rough blocks, from which two or three flakes only have been split, and 3rd, especially, that the form of the most finished specimens we have (*e. g.* Pl. III., fig. 9) is totally unfitted for a weapon intended to pierce, the angles formed by its sides at the point being too obtuse, and its transverse section being nearly circular, whilst that of all lance heads, and of most arrow heads, even amongst the rudest and least intellectual of races, is more or less elliptical, with the ends of the major axis sharp. With respect to the notches, I am convinced that they are accidental; in an attempt which I made to imitate some of these cores, (in which I may add, to the credit of the stone people, that, with all the advantages derived from the possession of an iron hammer, I failed egregiously,) I found that the notches were far more easily produced than avoided.

"I am but ill-acquainted with the remarkable accumulation of discoveries with respect to the prehistoric flint weapons of Europe, but I cannot help thinking that had any specimens, of equal neatness and beauty to these, occurred in the caves and shell mounds of France and Denmark, illustrations of them would be more numerous in the works relating to the subject. One other remarkable character in which the Central India cores differ from those figured from Europe, is in their extremely small size. Many of the most neatly shaped specimens are less than an inch in length, some less than  $\frac{1}{2}$  inch. It is difficult to understand how they can have been fashioned, and to what purpose the little flakes obtained from them have been applied. Possibly the latter were used as needles, or they may have been largely employed to tip small darts used for killing birds and small mammals, or, very probably, fish. Fish are still frequently shot by arrows in parts of India and Burmah, and I have myself seen men engaged in this mode of capture in both countries.

"The material of which all these implements are formed is agate or jasper, derived from the trap formation so extensively developed in Central and Western India. It is a beautifully homogeneous stone; very hard, and the edges of flakes split from it are extremely sharp. It is similar in mineral character and composition to the flint used by the early races of Western Europe, and is of equally good quality.

"With respect to by far the most interesting questions affecting these chipped implements, viz. their mode of occurrence and their geological antiquity, we have, unfortunately, very little information. Lieutenant Swiney's account of his discovery of the specimens in the neighbourhood of Jubbulpoor has been published in the Proceedings of the Society for April, 1865. I have myself, during the past year, found one very beautiful specimen of the long subprismatic form of core (Pl. III., fig. 12) close to the village of Singara, about 15 miles north of the station of Chindwara, in the Central Provinces; and I also met with 4 or 5 fragments of agate and jasper, from which flakes had evidently been chipped, on the banks of the smaller Sawa river, about 20 miles E. N. E. of the station of Kundwa in Nimar. The last locality is in a wild, almost uninhabited jungle. In both instances the cores were lying at the surface of the ground.

"It is probable that the area indicated, viz. the valley of the Nerbudda and its neighbourhood, for a distance from east to west of about 200

miles, is but a small portion of the tract over which these chipped agates will ultimately be met with. Cores of the prismatic form, chipped from chert, have been found in Sind, and specimens are preserved in the collection of the Bombay Branch of the Royal Asiatic Society.

"The question of the geological age of these implements becomes of great importance, when we consider the neighbourhood of the locality in which they occur, to the most important later tertiary deposit containing remains of mammalia, which has yet been explored in India,—the Pliocene gravels of the Nerbudda. It is to be hoped that it may be possible to trace the connection of the bone-bearing beds with those containing the implements. In connection with this question, the discovery of a flake by Mr. Wynne of the Geological Survey *in situ*, in the gravels of the Upper Godavery, already mentioned to the Society by Dr. Oldham, (see Proceedings for December, 1865, p. 207,) is of remarkable interest. A note of the discovery has also been published by Mr. Wynne in the Geological Magazine. I was myself at first very sceptical as to the genuineness of this flake, but a recent re-examination, and comparison of it with some of the Jubbulpoor specimens, have strongly inclined me to believe that it is really of human manufacture. It is precisely similar in form to one Jubbulpoor flake (Pl. IV., fig. 11), differing only in its larger size.

"It should never be forgotten that the question of the antiquity of man in India has a peculiar interest. Both tradition and scientific induction point to the tropics and especially to tropical Asia as the cradle of the human race. If this occurrence of implements of human manufacture in the Godavery gravels be confirmed, and especially if similar implements be found in the Nerbudda beds, they will prove man in India to have been contemporaneous with a fauna differing far more widely from that existing at the present day, than did the old cave fauna from that of modern Europe.

"Another point of interest is, the relative antiquity of the agate cores and flakes of the Nerbudda to the quartzite axes, scrapers and sling stones of Madras. Judging from the European equivalents, the Madras specimens should be the older: they exactly resemble the implements of the Amiens and Sussex gravels, whilst the counterparts of the Jubbulpoor flakes are to be found in the cave shelters of Dordogne, the shell mounds of Denmark, and the tumuli and barrows of England.



But it should not be forgotten that while both types of implements in Western Europe are formed of the same stone, viz. flint, those of Madras and Central India are of very dissimilar composition, and the agates of the latter country are rarely found in blocks sufficiently large to form the weapons of Madras, while the quartzites of Southern India would not afford the sharp edges and fine points, for which the jaspers and agates of the Nerbudda are eminently suited. In both localities the best use appears to have been made of the materials at hand, and the two forms of weapons may, so far as our present knowledge extends, have been contemporaneous, or either may have preceded the other.

“In conclusion, I wish to point out how greatly we are indebted to Mr. Rivett-Carnac for the loan of these most curious and interesting specimens of ancient human art.”

PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,

FOR NOVEMBER, 1866.



The last meeting of the Asiatic Society of Bengal was held on Wednesday, the 7th instant, at 9 P. M.

W. S. ATKINSON, Esq., in the Chair.

The proceedings of the previous meeting were read and confirmed.

Presentations were announced :—

1. From Lieutenant R. A. Cole, a copy of a “Manual of Mahomedan Civil Law” in Canarese.
2. From Rev. A. B. Spry, a case of bird skins from Malacca.
3. From Dr. C. MacClelland, a case of Upper Cretaceous fossils from Cherra Punji.
4. From Captain T. H. Lewin, through Mr Grote, specimens of clothes worn by the Hill tribes of Chittagong.
5. From Sir D. Macleod, through H. H. Locke, Esq., a bust of General Forbes.

The following letter accompanied the donation :—

*To the Honorary Secretary to the Asiatic Society of Bengal.*

DEAR SIR,—I am directed by Colonel Ballard to forward to you the accompanying bust of General Forbes, as a presentation from Sir Donald MacLeod, Lieutenant-Governor of the Punjab. The bust is a duplicate which has been executed in this school, from the very fine marble, by Foley, in H. M. Mint, Calcutta.

Yours faithfully,

H. H. LOCKE,

*Principal, Govt. School of Art.*

*Calcutta, November 7, 1866.*

On the proposition of the Chairman, a special vote of thanks to Sir D. MacLeod was given by the meeting.

Kumar Harendra Krishna Bahadoor, proposed at the last meeting, was balloted for and elected an ordinary member.

The following gentleman was nominated for ballot at the next meeting :—

J. M. Ross, Esq.

Proposed by Dr. J. Anderson, and seconded by Mr. H. F. Blanford.

Mr. S. Jennings' desire to withdraw his name from the Society was recorded.

Read the following letter from W. H. Johnson, Esq., on the existence of Hindu Tartars on the banks of the River Indus :—

*To the Secretary, Asiatic Society of Bengal, Calcutta.*

DEAR SIR,—I have the pleasure to request the favor of your kindly bringing to the notice of the Society the fact of the existence of Hindoo Tartars on the Indus river, and of their occupying several villages, the largest of which is Dah, between Dras and Iskardo. These people differ much in their manners, customs and religion from the Bhots of Ladak and the Baltis of Iskardo. They consider themselves to be pure Hindoos, being so devout and paying such veneration to the cow, as to refrain from touching that animal and from consuming its milk, &c. I believe these men are of a distinct race, traces of which are not to be found in any other part of the Maharajah's territories. No doubt great advantages and useful information may be derived by enquiring into the language, manners and religion of these people; and it is for this purpose I have brought the subject to the notice of the Asiatic Society.

I remain, yours faithfully,

W. H. JOHNSON,

*P. R. G. S.*

*Dehra Dhoon, 28th October, 1866.*

The receipt of the following communications was announced :—

1. From J. Beames, Esq., C. S.—

“Outlines of Indian Philology.”

2. From Baboo Gopee Nath Sen—

“An abstract of hourly Meteorological Observations made at the Surveyor General's Office in July last.”

## 3. From Bábu Rájendralála Mitra—

“Notes on Gupta Inscriptions from Apsar and Behar.”

## 4. From C. Horne, Esq., C S —

“Notes on Mynpuri village and on some carvings on the Buddhist rail-posts at Boodh Gya.”

## 5. From the Secretary to the Government of Bengal in the Public Works Department —

“A Report on the Earthquake of the 23rd May last.”

## 6. From V. Ball, Esq.—

“Notes on the principal Jungle fruits used as articles of food, by the natives of the districts of Maunbhoom and Hazareebagh.”

At the request of the Chairman, Mr. Ball read his paper, of which the following is an abstract:—

The author remarked that during the present season of famine many of the Jungle tribes of Maunbhoom and Hazareebagh subsisted entirely on the produce of wild jungle plants. He had collected information respecting the plants so used, and in the paper which he now read to the meeting he enumerated the fruits, &c., with some details respecting their preparation as food. The following is the list, given approximately in the order of their relative importance —

Botanical Name.		Native Name.	Parts eaten.
<i>Bassia latifolia</i> .		Mahowa.	{ corolla and fruit.
<i>Shorea robusta</i> .	Roxb.	Sál.	seeds.
<i>Moringa pterygospermum</i> .	Gartn.	Sujna.	leaves.
<i>Eucolus viridis</i> .	Linn. sp.	Bátwà.	do.
<i>Amaranthus spinosus</i> .		Kàntà.	do.
<i>Ficus Indica</i> .	Roxb.	Bur.	fruit.
<i>F. religiosa</i> .	Linn.	Pipal.	do.
<i>F. venosa</i> .	Aif.	Pakoar.	do.
<i>F. racemosa</i> .	Linn.	Gooler.	do.
<i>Zizyphus jujuba</i> .	Lam.	Bier.	do.
<i>Buchanania latifolia</i> .	Roxb.	Pial.	fruit and seed.
<i>Diospyros melanoxylon</i> .	Roxb.	Kaned or Keond.	fruit.
<i>Carissa carandus</i> .	Linn.	Kuromcha.	berries.
<i>Bauhinia Vahlii</i> .	W. L. A.	Chehoor.	seeds.
<i>Syzygium Jambolana</i> .	Decandolle.	Jamoon.	fruit.

<i>Phyllanthus emblica.</i>		Amlá.	fruit.
<i>Terminalia catappa.</i>	Linn.	Badam.	seeds.
<i>Cassia fistula.</i>	Linn.	Amultas.	{ placenta of pods.
<i>Trapa bispinosa.</i>	Roxb.	Singhara.	seeds.
<i>T. quadrispinosa.</i>		Do.	do.

In addition to the above, a number of roots are used, but the author has not at present sufficient materials to give a list of them.

Mr W. T. Blanford said, with reference to Mr. Ball's paper, that those who had not habitually lived among the jungle tribes of India, could have but little idea how largely they depended on the natural yield of the forest for their sustenance. The subject was one of especial interest in connexion with the probable habits of the ancient men of Pre-historic times, whose relics were now exciting so much deserved interest in this Society and elsewhere.

The following notes received from Mr. Horne were read.

1. To what is due the exemption some men have from the attacks of bees and wasps?

One reads of it in England, and here is another illustration.

"Yesterday we arrived at our camp at Soj, and needing the elephant to go on again very soon, I directed the Mohaut to feed him well, and have him ready in three hours.

"Instead of this, he chained the said elephant under a large peepul tree, leaving him to pull down the boughs and browse on them.

"He did this for some time, when presently he seized a large branch and swaying to and fro, applied his vast strength to pull it down.

"He succeeded; but the crash caused the whole tree to shake, when suddenly there was a cry in the camp, 'The bees! The bees!' and every one was seen running away, beating off the said bees, which descended from the peepul tree, where they had been disturbed by the shaking, and attacked every living thing within 70 or 80 yards.

"A dog even, passing below the tree, did not escape, and was sorely

bullied by the insects. He shook his head, struck with his paws and rolled in vain.

“One man defended himself vigorously with the table cloth which he was taking away, leaving however his pugree on the field. Two men hid under some tent covering, and it was strange to see the pertinacious way in which for more than an hour ten or twelve bees flew round at them, occasionally getting under, so that one of the men was much stung.

“But it was stranger still to see one of the men Chida (gardener). He lay sleeping with only a waist cloth on and nearly all his body exposed, under the very tree; yet no bee touched him! This man takes a bee’s or wasp’s nest, brushes off the bees or wasps with his hand; none sting him. He could on this occasion have made no preparation. *Why is it?*

“The bees after about two hours retired to their tree, and the camp was reinhabited.

“October 20th, 1866.”

## 2.—Fireflies and sympathetic light.

“On the 8th September, 1866, as I was returning from my autumn assizes at Etawah, I was detained for an hour at Boojea Ganges canal chokie, about eleven miles from Mynpoory; and sat outside by the canal and watched the fireflies.

“It had just fallen dark, and they were flying around the trees on the canal bank in very great numbers. But what struck me was their simultaneously flashing their light. Suddenly a whole tree was a blaze of light. After a second or two all was dark. Then again the light flashed forth simultaneously.

“I have never before observed this. I have often seen a long stream of sustained light as well as the ordinary intermittent effulgence, but this was so beautiful a sight that I shall not quickly forget it.

“I cannot say how far the simultaneousness extended. It certainly extended to several large trees and their surroundings, although all along the canal bank there were myriads of fireflies, whose giving forth of light I did not observe.”

A note by Mr. W. Theobald, Junior, on the supposed occurrence of *Nesokia Indica* in Burmah, was read.

“In Blyth’s excellent “Memoir of the rats and mice of India,”

the author remarks of *Nesokia Indica*, that he has "not seen it from the eastward of the Bay of Bengal, though it is likely enough to occur in the dry climate of the region of the Upper Irawadi."

"In confirmation of this supposition, I now record the occurrence of *N. Indica*, at Tounghoo on the Sittang, and the very first specimen I procured exceeded any measurement recorded by either Blyth, Gray, or Elliot in the above memoir. Elliot gives the dimensions of an old male.

Body, .. .. .	7.00	} = 13.50
Tail, ..... ..	6.50	

"On which Blyth remarks: According to my observation, the tail has not exceeded  $5\frac{1}{2}$  inches from any part of the country."

"In contrast to the above statement stand the measurements of an old male and female *Nesokia* from Tounghoo, taken carefully from the fresh animals.

Male,.....	Body, .....	9.75	} = 17.00
	Tail, .....	7.25	
Female,...	Body, .....	8.50	} = 14.50
	Tail. ....	6.00	

"Colour dark brown above, hardly paler below.

"It will of course from these measurements be surmised that the specimens are young Bandicoots, but though I have no series to compare them with, I cannot but think they are unusually large *Nesokias*. They display the "bluff arvicoline or vole like aspect" and have toes 4-5 and sixteen mammae.

"The following description of *Mus robustulus*, Blyth, from Tounghoo, may help to exhibit the variations of size and colour to which the species of this difficult group are subject.

"*Mus robustulus*, Blyth.

"Colour dark grey ("grizzled grey," Blyth,) above, scarcely tinged with rusty [?] and with many black hairs mixed. Feet and belly white. Fur rather coarse and hispid, but close; especially below. Tail thinly clad. Mammæ twelve.

Male,.....	Body, .....	7 10
	Tail,.....	7.10 = 14.20

"A common house rat breeding in the roofs and not burrowing."

PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR DECEMBER, 1866.



A monthly general meeting of the Asiatic Society of Bengal was held on Wednesday the 5th Instant at 9 P. M.

The Honorable J. B. Phear, in the chair.

The proceedings of the previous meeting were read and confirmed.\*

The following presentations from W. H. Johnson, Esq., were announced ;\*—

Old brick Tea from ruins near Nchi.

Tea found in dry bed of salt lake near Karakas.

„ „ near Karakoram pass.

„ „ at Kiam hot-springs in Changchemno.

„ „ ditto ditto.

„ „ at Dooar in Khotan.

„ „ at Kiam hot-springs.

„ „ near Dooar in Khotan.

„ „ „ ditto ditto.

„ Grasses from Khotan.

Five Images found in large plain north of the Changchemno (Tartar).

One pair of (woman's) Boots from Khotan.

One woman's cap ditto

One box ditto

One carpet ditto

One praying wheel (Tartar).

One Tea-pot from Khotan, engraving done there by women.

J. M. Ross, Esq., duly proposed, at the November meeting, was balloted for and elected an ordinary member.

\* See Proc. for August. *Ante*, pp. 182-5.



Messrs. W. T. Dodsworth and A. Money's desire to withdraw from the Society was recorded.

The following gentlemen were named as candidates for ballot at the next meeting.

Lieutenant W. J. Williamson, Assistant Commissioner, Garrow Hills, proposed by Dr. J. Anderson, seconded by Baboo Rájendralála Mitra.

G. A. Anley, Esq., Engineer to the Municipal Commissioners, proposed by Dr. J. Ewart, seconded by Dr. J. Anderson.

Dr. J. Anderson read the following two letters from Dr. Ross and Mr. Abbey.

*Cape Comorin, Travancore, 6th October, 1866.*

MY DEAR FAYRER,—I have undertaken, at the desire of the British Resident, to collect information regarding the Ethnology of this country and of Cochin, and to illustrate it by photographs of typical examples of the people, public and religious buildings, and monuments, private dwellings, arms, musical instruments, &c. Of the typical people, I purpose taking of men and women, one full length photograph, and two of the bust, one being full face and the other profile—and one photograph of the top of the head. Of course photos. of all the agricultural instruments will also be taken, and a few of the country, in order to give an idea of its general outline, as well as some idea of the way in which it may have modified race distinctions.

The account of the Ethnological condition of the two countries will include a full account of the religious and superstitious beliefs and practices, of the moral condition, the employments, and amusements, the physical conformation, (with accurate measurements,) the language, history, and traditions of each race.

A set of the photographs will be presented at the expense of the Travancore and Cochin Sircars (or rather at mine, as they are only to pay for the actual chemicals used,) to the Ethnological branch of the Royal Asiatic Society, together with my account of the Ethnology. As I shall have to take some 300 or 400 *negatives*, fully to illustrate the subject, and to collect all the information procurable, I have, as you may imagine, my work pretty well cut out for me. As I am going to so much trouble and expense, I would like the thing to be as complete as possible—and I would therefore be much obliged for any

hints which you could give me in order to render it so; as I know you are both interested in the subject and competent to give the best advice regarding it. •

We have many most interesting tribes in these two small states:—the white and black Jews of Cochin, the bigoted and exclusive Namboori Brahmins, who lord it over the Tamil and Konkany Brahmins, the Syrian Christians, the Chhetrya rulers of Cochin, the Choans, the soil slaves, the Pulliards, the Wadi, and the jungle tribes regarding whom little or nothing is yet known, (including the winter tribe—lithe of limb and quick of eye—with a scent like that of hound;) the lordly Nair and many other interesting tribes “too numerous to mention here.” Should you think information on any special point particularly valuable, I will take care that it shall be complete.

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Believe me

Your's very sincerely,

ÆNEAS MACLEOD ROSS,

*Residency Surgeon.*

*Mergui, B. Burmah, November 16th 1866.*

DEAR SIR,—I have received a printed report of Proceedings of the Madras Government, together with a circular to Zillah Surgeons, requesting information as to the Ethnological characteristics of their respective districts. •

The district of Mergui, situated at the southern extremity of B. Burmah, has a singularly wild population, affording specimens of most or all of the many varieties of the Peninsula; natives of Northern and Southern China, and probably also of the East Indian Islands.

Peculiar to the Mergui Archipelago are the “Selungs,” a curious people, very distinct in appearance, habits and surroundings from the inhabitants of the main land. •

You will probably agree with me in thinking that any such report as that called for would be immensely increased in value by a well selected series of photographs, which might very possibly prove to be the only really valuable part of the communication.

I have ventured to address myself to you on this matter, as being the promoter of the forthcoming Ethnological Congress. If you

think it would be worth while to have these photographic illustrations, Government might perhaps be induced to forward the matter.

I am Dear Sir,

Your's faithfully,

WALTER ABBEY.

The Hon'ble Justice Campbell made a few remarks on the above letters.

The receipt of the following communications were announced—

1. From C. Horne, Esq., Notes on the village of Manaira.
2. From W. T. Blanford, Esq., F. G. S. Contributions to Indian Malacology, No. VIII.
3. From Baboo Gopinath Sen, an abstract of hourly Meteorological Observations taken at the Surveyor General's Office in August last.
4. From Captain H. A. Browne, Notes on the Pegu Pagoda.

The Secretary read extracts from Captain Brown's paper. It appears from the paper that every ancient Pagoda in Burmah has its "*Thamaing*" or "Sacred Chronicle," giving its history from its foundation to a recent time. The commencement of these chronicles is of a more or less mythical character, the founding of each particular Pagoda being connected, if possible, by its historian, with some event in the life of Gaudama. But later on they are truthful contributions to the history of the period. According to one of these chronicles, (of which the paper is an abstract translation) the *Shwe Hnawdow*, or the great Pagoda of Pegu, was erected by two pilgrims named Mahathala and Tsoolathala, in the year 572 B. C., and was intended to enshrine two hairs of Buddha which he had given them for the purpose. The Pagoda seems, however, to have soon after fallen into neglect, and its first authentic history begins with the foundation of the town of Pegu in the year 1116 by Thamala, a Talaing prince who named it *Hanthawadie*. He made it the capital of his kingdom, and greatly improved and endowed the Pagoda, and thirty-five princes of his race successively reigned after him and added largely to the height and importance of the shrine. From the Talaings, Pegu passed into the hands of the king of Pagan in 1354, who held it but for a few years, and made it over to a Martaban prince named Wororee in 1357. The descendants

of the last reigned for a little more than two hundred years, and yielded the kingdom to a new dynasty which supplied successively four kings from 1568 to 1636. In 1737 Pegu became an appanage of the kings of Ava.

The Chairman said it was now his duty to invite discussion upon the paper, which had just been read by the Secretary. He was sorry to be obliged to confess, that under the obscurity of long words, and local names entirely unintelligible to him, he had not been able very clearly to comprehend the purport of Captain Browne's communication. The heading of the paper had led him to expect a discussion of architectural and antiquarian researches, and judging from the impression produced on his mind two years ago by the sight of the magnificent pagodas at Rangoon, he imagined that an investigation of their origin and of their structural peculiarities would afford a subject well worthy of the attention of this Society. If he was not misinformed, these pagodas were all solid masses of masonry, resembling in this respect the pyramids of Egypt, with perhaps (like them also) a small chamber in the centre. It would be interesting to inquire, whether the Burmese pagoda was an advanced form of the pyramid, in which graceful curved outlines, and mouldings had taken the place of the hexagon and its plane faces: and if so, to trace out the circumstances of the development. But as far as he understood the present paper, it did not touch on this topic at all: it was rather an abstract of old chronicles, and as such, was probably a valuable contribution to the archaic or mythological history of Burmah. He hoped that some of the members of the Society then present were prepared to do justice to its merits.

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Mr. Waldie rose to mention a subject on which he wished for information, in connection with the investigations on the Hoogly water in which he is at present engaged, in the hope that some members of the Society might be able to assist him to it. And he would take the opportunity to observe, in relation to his late communications on that subject, that he did not coincide with all the views and conclusions that had been drawn from the results given in his papers; and though in due time he would probably have more decided opinions, as matters stood at present, he considered that his results rather were to be taken

as having broken up received opinions on the subject than as having established new ones.

His enquiry at present was directed towards ascertaining the dimensions of the channel of the river,—its breadth and depth, and therefrom its area, and also the velocity of the current and quantity of water passing in a given time. He referred to the source of the river in the effluents from the main stream of the Ganges, and the impediments to the supply of water from the main stream by the bars formed there, the Hoogly having been compared by some to an arm of the sea rather than a river during the hot season, in which the water oscillated backwards and forwards under the influence of the tides. He should be glad if any member could put him in the way of getting some definite information on the subject, as some attempts he had made to obtain this, had not been attended with success.

Several members expressed an opinion that the information could be obtained, and promised to assist Dr. Waldie in his researches.

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# JOURNAL OF THE ASIATIC SOCIETY.

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PART I.—HISTORY, LITERATURE, &c.

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No. II.—1866.

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*Description of Ancient Remains of Buddhist Monasteries and Temples, and of other buildings, recently discovered in Benares and its vicinity.—By the Rev. M. A. SHERRING, L. L. B., and CHARLES HORNE, Esq., C. S.*

[Received 20th November, 1865.]

In a former paper on the Buddhist Remains found at Bakariya Kund, Benares, which we had the pleasure of communicating to the Asiatic Society last year, it was shown how that at this spot extensive traces still exist of ancient edifices, for the most part of the Gupta period, consisting of remains of several Buddhist temples and of one vihar or monastery. It is our purpose in the present paper, to give the results of further investigations into the antiquities of this city.

Fully satisfied, as we believe most persons are, that Benares is a city of extreme antiquity, we have endeavoured to ascertain to what portions this epithet will apply. And by the term 'old' we mean not a few hundred years merely, although a city six\* or seven hundred years old is generally regarded as an ancient city. But we must remember that Benares lays claim to an antiquity of several thousands of years, and undoubtedly it is referred to in various ancient Hindu and Buddhist writings. Consequently, we are not satisfied with discovering in it edifices erected half a dozen centuries ago, any more than we should feel satisfied with discovering edifices of a similar date in Jerusalem, or Damascus, or Rome. The terms 'ancient' and 'old'

as used in this paper, will therefore not be applied to buildings erected 500 or even 800 years ago, but to those of a previous period.

That wonderful mass of lofty houses separated by narrow lanes and packed together in such wild disorder, appearing in fact like one immense structure of gigantic proportions, which extends along the banks of the Ganges for more than two miles, and has a circumference of at least six, although built for the most part of solid stone, and presenting largely the aspect of hoary age, has no right to the epithet of 'ancient.' Some of the buildings of which it is composed, have been standing fully five hundred years, yet there are very few indeed which have not been erected since the commencement of the Mohammedan period in India. But speaking generally, this, together with a part of the northern boundary of Benares, is the oldest portion of the present city, while that large extent of buildings lying south and west beyond it, and occupying four or five times its area, is chiefly of recent date.

The question which we have attempted to investigate, is, what is there in Benares more ancient than, say, the epoch of Mahmūd or Gaznū, who invaded India in the year of our Lord 1001? Are there any remains of the preceding Hindu, Jain, and Buddhist periods? And is there any remnant whatever of the first Hindu period before the rise of Buddhism in the sixth century B. C., or even before it became paramount in the reign of Asoka, B. C. 250?

When, after diligent search and careful scrutiny, we endeavoured to find proofs of the existence of Benares during these earlier periods, we soon ascertained that they were scanty, and with a few exceptions unimposing. The debris of ancient Benares may be traced in the multitude of carved stones, portions of capitals, shafts, bases, friezes, architraves, and so forth—inserted into modern buildings in the northern and north-western quarters of the city. These fragments exhibit a great diversity of style, from the severely simple to the exceedingly ornate, and are in themselves a sufficient proof of the former existence of buildings, of styles of architecture corresponding to themselves, yet differing in many important respects from the styles of modern Hindu and Mohammedan structures, and coinciding with those of ancient temples and monasteries of the Gupta and pre-Gupta periods, the ruins of which are still existing in various parts of India. Were

these the only remains found in Benares, they could not fail to awaken much curious interest in the mind of the antiquarian; and he would naturally carry on a process of induction in regard to them, and would say to himself, 'here are the stones, but where are the buildings? What was their form? What their age?' And with the help of the ruins of other places, he would be able to answer most of these questions satisfactorily, and would, to a large extent, describe the buildings, to which the stones at one time belonged, and would determine the epoch of their erection. Our belief is, that the most ancient ruin yet discovered in India, exhibits nothing older than some of these Benares stones, now embedded in modern walls and parapets, and scattered about in divers holes and corners of the city.

The fact that such old fragments are found in Benares, united with the circumstance that such an exceedingly small number of structural remains of any pretensions to high antiquity are traceable in it, goes far to prove that the city has been not once, but several times, destroyed, until, except in rare instances, and these chiefly consisting of foundations and basement mouldings, not one stone of the ancient city has been left upon another, and the foundations of its temples and its palaces have been torn up, so that their places are no longer known. Moreover, there is no manner of doubt, that the site of Benares has considerably shifted, and that at one time it came quite up to the banks of the river Burna, which flows into the Ganges on its northern boundary, and from which it is now distant nearly half a mile, and stretched beyond the opposite bank, until perhaps it coalesced with the ancient city which, if we may believe the Ceylon historians, encompassed Sarnath in the age when Sakya Muni arrived there to "turn the wheel of the Law," or previous to it. If this be true, the Hindu pilgrim who performs his wearisome journey of perhaps many hundreds of miles, with the object of reaching holy Kashi, and dying in the city of his fathers, is labouring under a prodigious delusion, for the city which he visits, has been chiefly erected under Mohammedan rule, and on a spot for the most part different from that which his fathers trod; and the fanes in which he worships, are not the spacious temples which his ancestors built, but either the pinched and contracted cage-like structures, which Mohammedan emperors just permitted their idol-loving subjects to erect, or modern imitations of the same.



We shall now proceed to describe such ruins and remains of ancient edifices, whether Hindu or Buddhist, which we have discovered in Benares or in its immediate suburbs.

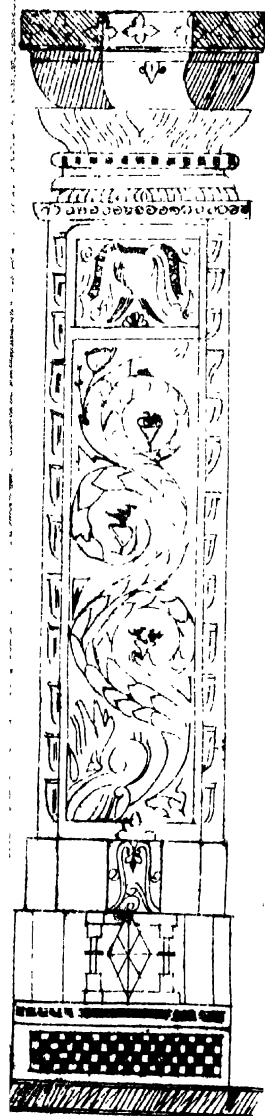
*Buddhist Vihār—No. I.*

The remains of this vihar are in the interior of the fort at Raj Ghaut, in the outskirts of the city on its northern boundary. There is a small tongue of high land, about fifty feet above the plain below, extending to the junction of the Ganges and the Burna, which, in the mutiny, was strongly fortified, and has been styled ever since, the Raj Ghaut Fort. There is a tradition amongst the natives, that this spot was selected, ages ago, for a similar object by the famous Rajah Banár. It is probable that formerly the whole of this elevated tract was inhabited, and that the Rajah governing the city had his chief residence there. It is the natural key not only of modern Benares, but also of the country for several miles around; and a well-equipped force in possession of it would, with difficulty, be approached and dispossessed. The Government has lately abandoned this grand strategical position on the ground of its alleged unhealthiness.

A short distance to the right of the main road leading into the Fort, may be seen the remains of the vihar, which I will now describe, and which, next to the Buddhist temple at Bakarya Kund, are the most complete, and certainly are the most beautiful, of any ancient remains yet discovered in Benares. They consist of two cloisters in a continuous line, each being sustained by a quadruple colonnade, but differing both in height and in length. The smaller cloister is 66 feet long, and the larger 84 feet, and therefore the entire façade is exactly 150 in length, whilst the breadth of both is uniform, and is 25 feet. There are 8 columns in each row in the one room, or 32 in all; and in the other, there are 10 in each row, or 40 in all; so that the number of stone pillars standing in the entire building is 72. Those in the smaller cloister are barely 9 feet high, and are all square and of a uniform pattern, a slight difference only being traceable in the capitals, which are of the old cruciform shape. There is not much ornamentation on these pillars, but the chess-board and serrated patterns are abundantly carved upon the architraves. The pillars in the larger cloister, including the capital and base, are 10 feet in



# BUDDHIST VIHAR - RAJ GHAUT FORT.



Portion of  
pillar, not to scale



Ordinary type  
Scroll on pillars  
from  
Raj-ghaut



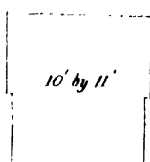
1 2 3 4  
Centres of Scrolls  
on pillars  
Raj-ghaut



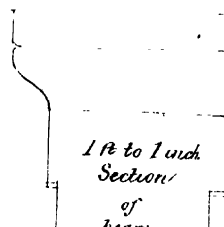
Raj-ghaut  
a Basement moulding



Lower cloister basement  
Moulding Raj-ghaut



10' by 11'



1 1/2 to 1 inch  
Section  
of  
base

height, but the architraves above the capitals are of the same height as those in the smaller cloister, namely one foot. These pillars differ greatly both in shape and ornamentation from those just described. Some of them are covered with profuse carving cut deeply into the stone, which in many instances is so sharp and well-defined as to give the appearance of having been recently executed. The lotus plant—pod, leaf, blossom and stem—forms a conspicuous object in many of the designs, all of which are striking, but some are exquisitely chaste and elegant. The *chakwa* or Brahmani duck is represented in various attitudes on the noble scroll-work extending along the square sides of several shafts from the base to the capital. These scroll bas-reliefs equal the carvings on the Sanchi pillars in richness, whilst the designs are much more free in their conception. There were formerly human figures, probably of a grotesque form, carved upon some of the pillars, as traces of them are still distinctly discernible, but these were defaced and almost obliterated by the Mohammedans, on taking possession of the edifice and appropriating it to their own uses. The pillars are regularly arranged with regard to the Singhasan, and the finest pillars are in the centre of the cloister, in the direction of its depth; and above them, near the inner wall, the stone ceiling in two divisions of the roof is singularly carved, and, strange to say, is of the kind described by Fergusson as Jain architecture. One of them is Alhambric in character, while the other is covered with lotus blossoms carved in relief.

There is not the smallest doubt that these cloisters have been much altered from their original condition, and that principally by the Mahommedans who transformed them into a mosque, in which service they were employed even as late as the mutiny in 1857, and were regarded with peculiar sanctity by this people. On closely examining the columns, architraves and ceilings, it is plain that not only has there been a good deal of shifting of places, but new pillars carved in recent times have been added to the old, and some of the old have been cut up for repairs, and their separated portions have been scattered amongst several pillars and joined on to them. The inner massive stone wall running along the entire length of the building, is evidently unconnected with the original structure, as also is the present stone floor which is a foot and upwards higher than the old.

A trench having been dug on the east side, it was discovered that the bases of many of the columns were embedded deep below the modern stone pavement, while in the front of the smaller cloister, at a depth of about a foot, the outer moulding of the ancient floor could be traced continuously from one end to the other. Notwithstanding all these extensive alterations which the building has undergone from time to time at the hands of different masters, we cannot but think that many of the columns are standing on their proper sites, and that the edifice, although greatly changed, is still in its main features a Buddhist structure. The cloisters were transformed into their present condition as a mosque some 80 years ago, and the modern pavement was then put down.

There is reason to believe that a third cloister, corresponding to the smaller, formerly existed at the southern extremity of the larger cloister; and this supposition is greatly strengthened by the circumstance of a *Singhâsan* or throne of Buddha, already referred to, being still standing by the wall in the centre of the latter, but altered from its original form, having been used by Mohammedan Mullahs as a rostrum or pulpit. The vihar, when complete, was in all likelihood a square, each side being at least the length of these three cloisters, and the chief Buddha was exactly opposite the centre of the square. What other buildings were formerly here, in addition to those now visible, can of course only be conjectured. It is probable that on three sides were cloisters, and on the fourth, namely that to the east, was a row of temples, the largest containing the principal figure of Buddha. That other buildings were once here, is certain from the various sculptured stones found near by. We observed seven pillars, sixteen isolated capitals, and four large carved stones used for architraves, some of which support a recently erected structure attached to the smaller cloister.

The venerable ruins described above, present a very remarkable appearance. In the year of the mutiny, barracks for European troops having been erected in their neighbourhood, they were converted into a vast cook-room or kitchen. Fires were lit inside on the stone floor from one extremity to the other, and consequently the roof, walls, and columns, were charred by the heat and blackened by the soot, so that now the interior of this grand edifice is most dismal and

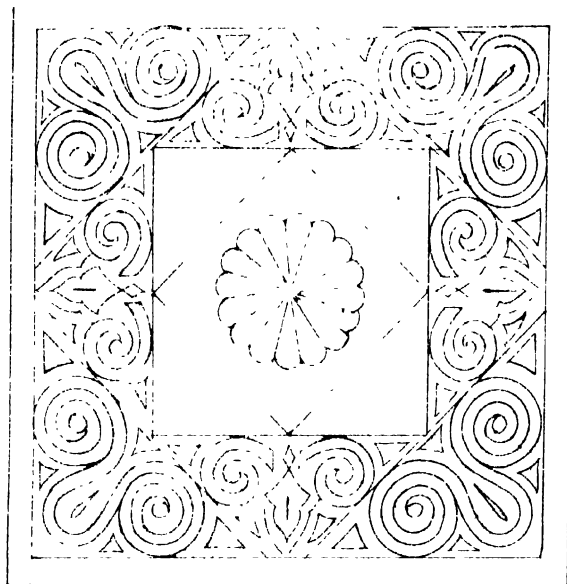


**BUDDHIST CHAITYA**

N.W. OF RAJ-GHAUT FORT.

OLD CHAITYA CEILING.

Scale 2 feet to 1 inch



**PILLAR**

2 feet to 1 inch



forbidding. Mr. Horne spent a few rupees in cleaning the building, and in removing, as an experiment, the encrusted soot from some of the carvings. Fortunately the Mohammedans or the British Government authorities, we know not which, in their care for these beautiful works of art, have embedded them in mortar from base to capital, so that many of them might be restored. The removal of the encrustations, however, will have to be accomplished with the greatest care, or else the surface stone, rendered friable by the heat to which it has been subjected, will come away with the superimposed mortar, thereby destroying the delicate edge of the carvings. We trust the Government will not grudge a few hundred rupees for the thorough cleaning of this fine specimen of Buddhist architecture. The inner stone wall and the modern pavement should also be removed.

Besides these remains, there were, until quite recently, hundreds of stones lying about in the fort, bearing traces of great antiquity. In the mutiny, many of these were collected, and were made use of for the foundations of temporary barracks which were then erected. These stones may have once belonged to the vihar just described, when it existed in its integrity, but may also have been portions of other contemporaneous buildings situated in its vicinity.

During the mutiny, Mr. Tresham, by Government order, blew up some ancient buildings standing near the vihar, and there are yet the foundations of one, which defied all attempts at its destruction. Mr. Horne also remembers a chaitya which was removed to afford space for barracks.

### *Buddhist Chaitya No. I.*

A few hundred yards due north from the old gateway leading into the Raj Ghaut Fort is a mound of circumscribed extent, now used as a Mohammedan burial-ground, on the summit of which are the remains of an old Buddhist chaitya or temple. They consist simply of four pillars, richly carved with scroll-work, sustaining an ancient roof. At the corners of the shafts is the ordinary ornamentation resembling a chain of lotus seed-pods. The capitals are cruciform, and the bases are square with embellished faces. The ceiling is very beautifully sculptured, and is composed of slabs over-lapping one another, with the centre stone crowning the whole, according to the



primitive mode of Indian roof-building. This latter stone exhibits the out-spread petals of a lotus blossom, while eight out of the twelve triangular spaces formed by the intersection of the slabs, are freely carved with the scroll-pattern. A few sculptured stones lie about the mound; amongst them is an erect figure of Buddha with garland and armlet, much mutilated. There are also three stone beams or architraves bearing the chess-board and spear-head patterns. In the small terrace likewise on which the chaitya stands, are inserted four carved stones, taken doubtless from some ancient building formerly in the neighbourhood. The occurrence of three or four plain cloister pillars of the usual form, adapted by the Mussulmans as head-stones for graves, together with the carved architraves already alluded to, would seem to indicate that a small cloister for monastic purposes must originally have stood upon this mound, which was then terraced, the stones of which have been by degrees removed both for building Mohammedan graves, and also for repairs in the Fort.

*Small Mosque in the Budaon Mahalla.*

In the Budaon Mahalla near the Raj Ghaut Fort, a short distance south of the high road, there is a small mosque in an enclosure, made up to a great extent of ancient remains. The building seems to have been curtailed from its original dimensions, leaving a ruined portion still standing on its southern side. The entire structure contains seventeen stone pillars, eight of which exhibit ornamental carvings and probably belonged to a Buddhist chaitya. There are also eight capitals inserted in the walls without shafts and bases, and in addition there are fragments of other capitals in various places. None of these old remains are in situ. They were brought, most probably, from some temple in the neighbourhood, perhaps indeed from the mound occupied by the ruins of the Buddhist Chaitya No. I., which is not far off.

*Ancient Mound or Ridge running from the Burna, near its confluence,  
into the Adampura Mahalla.*

This very remarkable ridge extends for a long distance, and commences at the river Burna when at its flood. In the dry season therefore there is a stretch of low land lying between its extremity

in that direction and the bed of the stream itself. The ridge is manifestly an artificial work, and was originally intended either as a wall to the ancient city, or as a rampart thrown up against it and the neighbouring fort of Raj Ghaut. The latter supposition was that held by Mr. James Prinsep, who imagined that it was cast up by the Mohammedans in their attack upon Benares, and was specially directed against the fort. This supposition may be true, although it is difficult to perceive how it could have been of much service either in an attack on the fort or on the city, especially in a period when artillery was not in use. Had it reached as far as the river Ganges, we could understand how, by severing the fort from the city, it might have been a source of damage to both, but the south-western extremity is not near the Ganges by a third of a mile or perhaps more. We are inclined to think, however, that this extremity was once connected with that river, but at a time far more ancient than the Mohammedan conquest of India. On the whole, it appears not unlikely that this long embankment was the old boundary of the city in the early periods of its history, which was possibly employed for offensive purposes by the Mohammedans on the extension of the city to the south and south-west, and the consequent abandonment of this means of defence by the inhabitants. The embankment may have been originally carried on to the Ganges in a straight line with its present direction; or, making a short circuit, may have entered it by Tilia Nálá, on the banks of which are the remains of a Buddhist temple, which will be hereafter described. In this case, a portion of it must have been thrown down and swept away to make room for the growth of the city, and there is good ground for supposing that the city extended in a narrow band on the banks of the Ganges, about as far as the Man-mandil observatory, even before the Christian era. Should this idea be correct, it would follow that the most ancient site of the city of Benares was situated within the limits of this wall, stretching across from the Burna to the Ganges, cutting off a tongue of land as far as the confluence of the two rivers, and including the high land of the Raj Ghaut Fort, which was, in all probability, once well populated. The city must have been then of small extent, as compared with its existing dimensions, unless, as we

believe, and as it is almost indisputably certain, it crossed over to the right bank of the Burna.

That both sides of the river Burna were in former days better inhabited than at present, is somewhat corroborated by an examination of the ground on both sides. Brick debris is scattered about among the fields on the right bank of this stream, and old coins and broken stone images are occasionally found by the people, or are dug up by the plough; while on the other, or Benares side, not only are old remains found in the fort, but also below it on the lowland already referred to, blocks of stone, some of which are carved and exhibit ancient mason marks engraved upon them, are still to be seen. Moreover, it is stated in the Ceylon Annals that formerly the city surrounding Sarnath, (about three miles from the right bank of the Burna,) coalesced with or was a part of Benares, which, if true, must have been at a period of remote antiquity. Indeed, the allusion in these records is to an epoch long anterior to that of the historical Buddha or Sakya Muni, and therefore prior to the sixth century before Christ. This account must of course be received with much caution, and not as absolutely authentic history. At the same time, it is manifest that there was a tradition amongst the Buddhists of India, conveyed thence by their missionaries to Ceylon, that in remote ages the city of Benares extended to Sarnath.

In visiting this ridge or embankment, it will be observed that the high road leading to Raj Ghaut cuts right through it, the earth of the cutting being used to raise the road above the level of the country. It is well to remark too that where the road passes under the fort to the ghaut, the soil has been cut away to make room for it, so that formerly we may suppose that instead of a steep and almost precipitous wall which the elevated land to the east of the road now exhibits, the mound of the fort in this direction diminished in a gradual slope, terminating perhaps not far from Tilia Nálá.

The ridge is in one part formed of three terraces, the uppermost being perhaps thirty feet above the land, upon which elevated spot is the tomb of Míra Sahib. In the mutiny a large portion of the mound opposite the Fort was cut away for strategical reasons, although what is left is sufficient to prove of great service to an enemy attacking the fort.

On the south side of the ridge, in sight of Mīra Sāhib's tomb, is an Imambāra, a modern edifice, built altogether of new materials; and a few paces distant from it are two small structures, one in front of the other, which, although of recent erection, are partly composed of old materials. Each building possesses four ancient pillars of the Buddhist type, and lying about in various places are four pillars more, five *kulsees*, two architraves, and seven bases, one of the latter being richly carved. All these are the spoils of some ancient temple or monastery.

*Remains of Buddhist Chaitya, No. II, and Buddhist Monastery,  
No. II, at Tilia Nālā and Maqḍum Sahib.*

We have chosen to unite these remains, and to speak of them under one head, because, although separated and standing in different Mahallas, yet they are near enough together to give rise to the supposition, that they may have been at one time connected. There is no question in our minds that at least one monastery stood in this neighbourhood, which is very rich in old carved fragments of stone scattered about amongst the walls and foundations of dwelling-houses and in divers other places. Perhaps it may be questioned whether the ruins at Tilia Nālā, now forming part of a deserted mosque, were originally a portion of a monastery or a portion of a temple, but our own opinion is in favour of the latter; yet even though this conjecture were true, it would still be probable that the temple was within the precincts of a large monastery and was considered to be a portion of it.

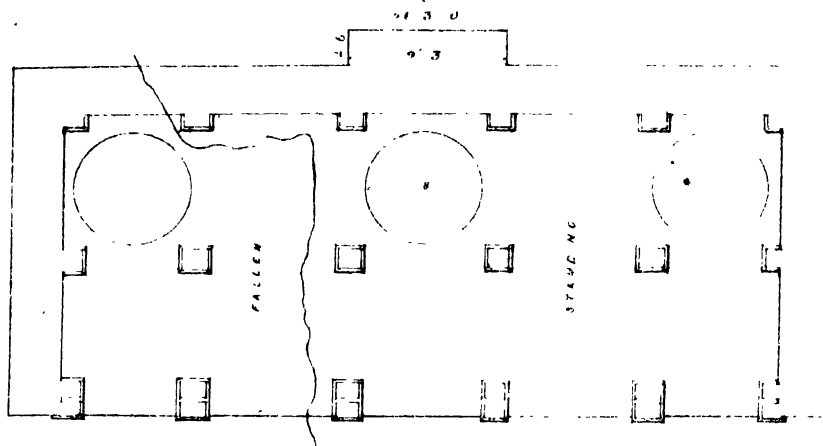
The remains at Tilia Nālā are immediately above the Nālā on the high ground of its left bank, a very short distance only from the point where it runs into the Ganges, and close to the main street under which the stream flows. The ruins not only overhang the brook, but there is no doubt that at one time they must have extended nearly, if not entirely, across its present bed. They consist of seventeen massive square columns in three rows, namely four double columns in the front row, four single ones in the second, and five in the third or innermost row. Between the third and fourth pillars of the last row is the Singhasan of Buddha, an immense slab of stone, nine feet three inches in length and five and a half in breadth, retreating beyond the boundary wall behind, into which all the pillars of

this row are inserted. There can be no dispute that the Singhasan was in the centre of the building, that is to say, that as there are three pillars to the right of it, there were as many to the left, in each of the three rows, the front row being of double pillars throughout. Re-constructing the edifice as it originally stood, therefore, there were one row of six double pillars, and two rows of six single pillars, or twenty-four pillars in all. Each capital is ornamented with the bell pendant, of which the Buddhists were so passionately fond, and which was after them much used by the Brahmins. The double columns are surmounted by one huge capital, five feet and a half in breadth, each of which possesses a long arm for the eaves stone. Over the two inner rows are two domes, one of which is above the Singhasan, and is more ornamented than the other. There must have been originally a third dome to the left of the central dome, corresponding to that on the right. Outside the building there is a fine basement moulding which doubtless belonged to the primitive structure. Estimating the building as it once stood, it was fully fifty-four feet in length and about twenty-four in breadth. The Mussulmans may have altered it considerably in transforming it into a mosque, but we apprehend that not a little of the old temple still remains. Some of the large stones have fallen into the Nálá or upon its banks, and others have not unlikely been made use of in the repairs of the bridge, and of its adjoining stone wall, so that we believe it would not be a difficult task to find nearly all the missing pillars and capitals.

The Maqdam Sahib is a square enclosure in the Gulzar Mahalla near to Tilia Nálá, used by the Mohammedans as a cemetery. On its northern and western sides are cloistered pillars, partially in situ, with portions of ancient stone eaves overhanging their capitals, presenting on their upper surface imitations of wood-carving. There are twenty-five pillars on the western side, and twenty-eight, or, if all could be seen, probably thirty-two, on the northern side. Several of the pillars are carved; while some of the capitals are ornamented, and some are double. There may be seen also handsomely carved stone brackets for the support of the eaves above alluded to. The eastern wall bounding the enclosure is evidently composed, to some extent, of cut stones of an ancient date. The entire court is one hundred feet long from east to west, and sixty feet broad from north to south.

ROUGH PLAN  
OF  
TILIA NALA VIHAR CHAITYA

Scale 12 feet 1 inch

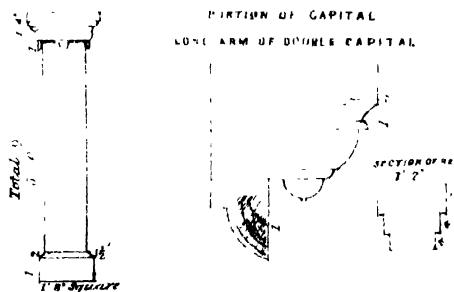


Enclosing wall 3 ft thick - with 9 inches of space in the middle of it  
Outside measurements 54' 3" by 24' Between shafts of column of  
Double columns capitals with long arm, no cross stone to be in one  
piece. Size of all shafts 15 inches square

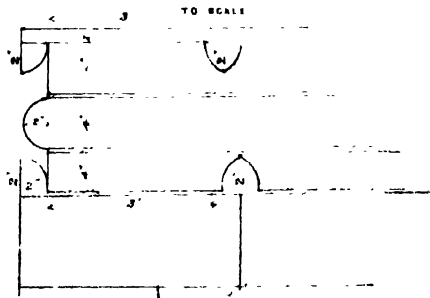
SCROLL ON CAPITAL



PARTIAL OF CAPITAL  
LONG ARM OF DOUBLE CAPITAL



SECTION OF BASEMENT MOUNTING





## SITE OF BUDDHIST VIHAR—No. III.

*Lât Bhairo.*

At the junction of the old Ghazee-pore road with the Raj Ghaut road, to the north of the latter, and about a short mile from the fort, is a large square tank, on the left bank of which, as on a terrace, stands the *lât* or pillar, which gives the name to the spot. It is probably not more than three or four feet high inside, and is covered with copper sheeting. We endeavoured to prevail on the faqir residing here to permit us to lift up the copper cap, by removing the plaster which connects it with the flooring below, in order to gain a view of the stone pillar which it now conceals; but so great is the reputed sanctity of this object, that our united efforts were entirely fruitless, and had we persisted in them, a disturbance might have been occasioned. The original stone column, of which the concealed pillar is doubtless a small fragment, was about forty feet high, and, it is reported, was covered with ancient carvings, which were most probably inscriptions. This was thrown down by the Mahommedans during a terrible conflict with the Hindu population in the early part of the present century, when Mr. Bud was magistrate of the city. The natives say, that the pillar was thrown into the Ganges, but as that stream is half a mile off or more, this must have been done piecemeal. In all likelihood it was destroyed by fire, the action of which on sandstone soon causes it to crumble to pieces. As there is strong reason for believing that this was one of Asoka's pillars, it would be exceedingly interesting to inspect the remaining fragment, which we may fairly suppose to belong to the original column, and in that case to possess a portion of an inscription sufficient to verify its connexion with Asoka, or with the Guptas, or with the monarchs of any other era by whom the column was erected.

It is important in our present investigations to know that the pillar once stood in the midst of a temple, that is, in its courtyard, which temple was destroyed by Aurungzebe, and on its site a mosque was erected, the courtyard of which enclosed the pillar. On examining the terrace where the *Lat* stands, it is exceedingly manifest that the upper portion has been thrown up in modern times, and that the ancient level of the ground was some six or eight feet lower than



what it now is, and indeed was even with the soil of the Mahomedan cemetery close by, in the midst of which are a few Buddhist remains in the shape of pillars and architraves made up into a Mahomedan sepulchre. What this so-called temple was, admits of very little question, inasmuch as the boundary walls of the terrace and of the neighbouring cemetery and garden exhibit a considerable variety of isolated carved remains, sufficient to afford abundant attestation to the supposition that formerly a large Buddhist structure, most probably a monastery with a temple connected with it, stood on this site, covering the whole extent of the ground elevated above the tank on its northern side. Some of the carvings are in excellent preservation, and are worthy of being removed to the archaeological collection in the Government college grounds in Benares. There are several pillars embedded in the brickwork, and also a stone seven feet in length and one and a half in depth, which is deserving of special remark, as on its face are projected four magnificent bosses, each ten inches in diameter, with a projection of two inches from the surface of the stone. These bosses must have formed part of the decoration over the main entrance to the monastery.

Below the upper terrace on which the Lat stands, is, as already observed, a Mohammedan cemetery with a *Rauza* or tomb in the middle. This building rests upon sixteen pillars, each being eight feet two inches in height, and the architraves between their capitals being one foot two inches in thickness. In addition, there are five pillars in the verandah to the south. Some of the pillars are ornamented with scroll-work and the lotus plant, while their four corners are deeply cut with representations of the lotus seed-pod. One pillar has eight sides in its lowest division and sixteen in its upper, and has also a band of four grinning faces connected together, and under them a row of beaded garlands. The pillar is crowned with a round stone projecting two inches, on the face of which is a curious assemblage of thirty-two grotesque faces all round the edge of the stone, with beaded garlands and tassels depending, issuing from their mouths.

It should be mentioned, that if our conjecture, that the upper terrace has been only recently thrown up, be correct, then on the supposition that the fragmentary pillar on its summit is part of the original pillar which in ancient times stood here, it would follow that the

length of the existing fragment is equal to the depth of the terrace above the foundations of the neighbouring cemetery, in addition to its present elevation above the terrace, and to the extent of insertion of its lower extremity in the primitive but now subjacent soil. In this case, it would be not less than from fourteen to sixteen feet in length.

### BUDDHIST CHAITYA—No. III.

#### *Battis Khambha.*

About a third of a mile to the east of the Bakarya Kund Remains, is a beautiful little structure called by the natives Battis Khambha or thirty-two pillars. It is a very picturesque object as seen from the Raj Ghat road, from which it is some four hundred yards distant. It consists of a dome sustained by twenty-four square pillars, standing in pairs at intervals all round. Formerly each corner had four pillars, thus increasing the present number by eight, and then, of course, the entire number was thirty-two; but two from each corner have been removed, leaving the spaces occupied by them empty. All the upper part of the building is Mohammedan, while all the lower part is indisputably Buddhist in its style of architecture. On the western side is an abutment for the Singhasan of Buddha, similar to that which exists in the Chaitya at Bakarya Kund, and indeed, so far as our knowledge extends, in all *bonâ fide* Buddhist temples. The pillars stand upon a platform raised above the ground, and in the interior of the building is a Mohammedan tomb.

It is remarkable that there should be so many ancient remains lying almost in a straight line from Bakarya Kund to the Raj Ghat fort, yet most of the remains hitherto referred to, lie in this line. We have no doubt that formerly a large number of Buddhist buildings existed between these two extremes, and that the foundations of some of them might be discovered, if a keen search were instituted, in addition to the more prominent remains already brought to notice. It seems evident therefore that there was a road here during the Buddhist period, not far removed from the track of the present one. This road was at right angles to another proceeding from Bakarya Kund in the direction of Sarnath, which still exists. Search might be made along this road for the foundations of ancient buildings and

for Buddhist relics, as there can be no doubt that constant communication was kept up by the monks of Sarnath with Bakarya Kund, in both which places there were vast monastic edifices and numerous temples.

Near this Chaitya and between it and Bakarya Kund is a small building standing by the road side in which are several pillars of the most ancient type inserted into the containing walls. They have been very probably brought from Bakarya Kund. The building has an unpretending appearance, and is kept whitewashed by the Mohammedans, its proprietors.

#### BUDDHIST VIHAR—No. IV.

##### *Arhai Kangura Mosque.*

It is not our purpose thoroughly to describe this handsome structure, which is one of the finest mosques in the whole city, and is situated in the Mahalla bearing its own name. Its magnificent and lofty dome, as well as various parts of the mosque itself, unquestionably exhibit a Mohammedan style of architecture, but we have no hesitation in saying that by far the greater portion of the building, and certainly five-sixths of its materials, belong to an epoch far more distant than the Mahommedan invasion. The numerous square columns with their cruciform capitals, and also the screens between some of them in the upper story, are of Buddhist workmanship; but we are inclined to think that both Buddhists and Hindus have made use of the same materials in different eras, and that in fact the mosque is a mixture of these styles, namely Buddhist, Hindu, and Mohammedan. The first edifice was, we believe, a monastery, with (most probably) one or more temples attached; but it is hard to say whether any portion of the original building exists in situ, and we have not sufficiently examined it to be able to pronounce a decided opinion on the point. Our conviction, however, is that certain leading characteristics of the first structure were perpetuated by the Hindus in that which they raised on the departure, or rather expulsion, of the Buddhists from Benares. It is not easy to determine accurately what this Hindu building was, but perhaps it is more likely to have been a math or a sort of monastery or religious house for Hindu ascetics, such as exist in the land at the present day, than a temple. In the

roof of the second story of the mosque a slab was discovered bearing a long Sanscrit inscription, towards the end of which is the date 1248, which, regarded as Sambat, is equivalent to A. D. 1190. The inscription itself is of no particular importance, except that it abounds with references to the Hindu religion, showing that it belonged to a building erected by a Hindu, and therefore subsequent to the Buddhist period. It alludes also to certain tanks, temples, and maths, situated and embellished in and about Benares, which of course were all in honour of Hinduism. It is not unlikely indeed that these structures were erected and this inscription was written with somewhat of a religio-political object, to testify to the triumph which Hinduism had then recently gained over Buddhism; for there is good ground for believing that the buildings at Sarnath were not burnt, and the monks were not expelled therefrom, till about the twelfth century of our era. We have obtained a copy of the inscription in Sanscrit, with a translation into Hindí, through the kindness of Babu Shio Parshad, Joint Inspector of Schools, whose intelligence, enterprise, and extensive knowledge place him in the front rank of native gentlemen in these provinces.

We would direct especial attention to the small side door or postern with its massive wall, to the right of the building, which has a great appearance of originality, and also to two noble capitals of gigantic dimensions, lying in the court-yard in front of the mosque and turned into small cisterns. They are the largest carved capitals we have found anywhere.

#### HINDU TEMPLE OF KIRT BISHESHWAR.

##### *Álamgírí Mosque.*

Near the temple of Briddhkál, one of the very few Hindu temples of the earlier Mohammedan period still standing in Benares not appropriated by the Mussalmans, and a few paces from the well-known shrine of Rattaneshtwar, is a mosque spoken of in the neighbourhood as the Álamgírí Masjid, which was erected during the reign of Aurungzebe or Álamgír, and was designated after that emperor. Upon it may be read the following inscription in Arabic:—

قول وجهك شطر المسجد الحرام  
سنة ١٠٧٧ هـ قري

The translation of which is, "Turn your face towards the sacred mosque. 1077 Higira," or A. D. 1659.

The mosque is built, tradition states, from the materials of the Hindu temple of Kirt Bisheshwar, and has three rows of lofty stone pillars, eight in each row; but the pillars at both extremities are not single, but three-fold. The capitals are large and massive, and are cruciform in shape. In the centre of each shaft, upon all the four sides, is the boss ornamentation, each boss being fully a foot in diameter. The pillars have a double base, a false and a true, the one consisting of the lower end of the shaft, the other, the true base, of a separate stone. Both are covered with carvings. Some of the architraves also bear upon them the boss pattern; but it is possible that these were formerly shafts of pillars. The inner wall of the mosque is likewise of stone. Viewed from behind, many of the blocks display various mason marks inscribed upon them.

From an examination of the marks or symbols, and of the architecture represented by the remains now briefly described, there is no reason for supposing that the temple which once stood here, and which was levelled to the ground by Aurungzebe, was of great antiquity. The style of architecture has a Buddhist basis, yet is not purely Buddhist, and the symbols are not necessarily Buddhist at all. We should be inclined to fix the date of the Hindu temple at some five or six centuries ago. It must have been a place of great sanctity, as many Hindus still visit the spot on pilgrimage, and instead of an image (which we suppose the Mohammedans would not allow them to put up) worship the spout of a fountain rising up in the centre of a small tank in the court-yard of the mosque. It is not improbable that the tank is the site of the old temple; but if the temple was a large one, as is likely, it must have occupied not only a considerable portion of the present courtyard but also some ground in addition on either side. A few persons perform their devotions in the tank daily, but the grand festival is at the *Shio rat mela*, for one day in March, when crowds throng reverently around the sacred spout, and present it (or perhaps regarding it as a god, they would say *him*, or *her*,) with abundant offerings, all of which, down to the last rupee, are received by the Mullah of the mosque, who thinks, we suppose, that if he winks at the idolatry, which in fact he cannot put down, he may as well be paid handsomely for it.

Attached to the mosque is a corridor, built a few years later, on the inner wall of which is the following inscription:—

ز حکم شاه سلطان شریعت • شهاب آسمان سرفرازی  
 دلیل زهد برهان طریقت • محمد شاه عالمگیر غازی  
 سر اصفام بیت خانه شکسته • ظهور مسجد داخلوا گشته  
 باستصواب نورالله مفتی • بناء خانقاه هست پیدا  
 غلام درگه پیران چشتی • زدو لخانه تاریخش هویدا  
 سنه ۱۰۹۶ هجری

In noticing the remains of the Kirt Bisheshwar temple, we are aware that they do not come under the designation of “old” or “ancient,” as applied to other remains described in this paper, and yet, as they are not without interest, we have given them a place in it.

#### BUDDHIST CHAITYA—No. IV.

##### *Chaukhambha Mosque.*

The long Chaukhambha street in the city of Benares, in or about which most of the great bankers have their houses of business, takes its name from four low massive pillars of modern erection, standing in the lowermost story of a lofty building, the weight of which they entirely sustain, situated towards its north-eastern extremity. There is a narrow court running out of this street, which terminates in a small enclosure, on the further side of which is a mosque. The entire enclosure has a very remarkable appearance, and, for the archæologist, is a place of considerable interest. The entrance is by a doorway let into a huge breastwork or wall formed of blocks of stone, which is twenty feet long, thirteen feet high, and four feet thick, and is constructed for the most part systematically, as is evident from the ornamentation on one stone answering to that on the stone contiguous to it. Over the doorway is an inscription in Arabic. But with the exception of this doorway and the castellated appearance crowning the wall, there is nothing Mohammedan in its architecture.

The mosque and corridor adjoining it are supported by twenty-four pillars, of which six are double. The capitals are of the simple cruciform pattern, and their outer limbs are decorated with the dwarf bell ornamentation. To the south of this building is a staircase

leading up to the roof, built of heavy stones; and along the south side of the enclosure, for the space of about twenty-five feet, is a low stone wall six feet in height, and, attached to it, a peculiar ledge three feet from the ground. It is known that a similar wall exists on the north side also, but hidden from view.

In our judgment most of the pillars are in situ, and originally formed part of a Buddhist structure, but whether of a temple or of a monastery, it is difficult to say. Our opinions are divided on the subject, and the former has been assigned to the building by way of a heading to this chapter. The wall with the projecting bench is very curious. The latter may have been used by the priests or monks for reclining upon.

• BUDDHIST VIHÁR—No. V.

*Aurungzebe's Mosque near Bisheshwar Temple.*

The mosque built by the emperor Aurungzebe on the foundations of what is commonly regarded, though erroneously, as the old or original Bisheshwar temple, is of interest not for its own sake—for notwithstanding its lofty appearance, it is a structure without any striking beauty in its own right—but for the sake of the ancient buildings with which it is associated, and with the materials of which it has been largely constructed. The courtyard consists of a terrace raised some five feet above the level of the temple quadrangle, in the centre of which it is situated, and occupying a large portion of the area. On walking round the quadrangle and examining the retaining wall of the terrace, one's attention is arrested by peculiar openings or niches in the wall, in which architraves, and capitals, and parts of pillars on which they rest, are visible, but in some places the openings are filled with earth almost up to the level of the capitals. Proceeding from west to east, the ground gradually declines, until, after descending four steps and arriving opposite a large stone bull or Nāndi, the opening in the terrace becomes clear, and a cloister, such as surrounds a Buddhist vihar, comes into view, and reveals the character of the entire series. It consists of a small chamber sustained by genuine Buddhist pillars, severely simple in their type, and without doubt of great antiquity. Formerly a succession of such cloisters encompassed not less than three sides of the existing terrace, which

must consequently date from the same epoch. It would be desirable, if the consent of the Mohammedans could be obtained, to remove the external wall by which these cloisters have become almost completely hidden, in order to ascertain what is their extent and condition.

This series of cloisters formed the lowermost story of a large Buddhist monastery, which once enclosed the entire space occupied by the terrace, and rose to the height of probably two or three stories above it. On the southern side stood the chief chaitya or temple, which, on the suppression of Buddhism, passed into the hands of the advocates of another religion, who transformed it according to their own tastes. The mosque on this side is altogether composed of the remains of an ancient temple of large dimensions, and of very elaborate workmanship. The high pillars, moreover, on its northern face have been abstracted from the same spacious building. These remains are partly Hindu, and it is unquestionable that the edifice which was destroyed in order to make way for the mosque, was an old temple of Bisheshwar. An excellent ground plan of this temple, prepared from a minute examination of the existing remains, was drawn by Mr. James Prinsep, and published by him in his "Views of Benares." These remains, however, are only partially Hindu. Some portions, judging from the elaborate ornamentation of certain details which it was the custom of the Buddhist architects to leave plain, seem to be of Jain origin, and to have been appropriated by the builders of the Hindu temple. If this supposition be correct, the mosque with its terrace exhibits a singular architectural anomaly, and presents us with no less than four styles, namely Buddhist, Jain, Hindu and Mohammedan. Indeed it would not be wrong to add a fifth style, for the square terrace pillars with their cruciform capitals are so simple in structure, that, compared with the highly carved and decorated pillars of mediæval and later Buddhist history, they belong to another style, which may be called early Buddhist or Hindu, according to which of these two ancient religious communities is supposed to have invented it. It is not our object to discuss the interesting and also important topic, who were the first Indian sculptors and builders of permanent works, yet it is one which must one day, when materials have been sufficiently accumulated, which they have not been at present, be thoroughly investigated.



When this is settled, the antiquity and origin of these terrace pillars will be settled likewise.

### BUDDHIST VIHÁR—No. VI.

#### *Ad-Bisheshwar Temple and neighbouring Mosque.*

Ad-Bisheshwar is the name of a lofty temple situated a short distance from Aurungzebe's mosque just referred to, and in sight of it, and is held to be, by some persons, the original or most ancient temple of this deity. The derivation of its name only bears out this supposition, for the temple itself, from the pinnacle to the base, has nothing really ancient about it. On the eastern side of the enclosure the ground takes a sudden rise of eighteen feet, forming a terrace manifestly of artificial construction. On this side there is a retaining wall of stone masonry, which is wanting on the southern side of the terrace, where there is only an earthen bank. The other two sides of the terrace are covered with buildings, which prevent the exact ascertainment of its boundary in these directions. On that flank which is contiguous to the Ad-Bisheshwar enclosures, stands a mosque erected some eighty years ago or less, but not finished then, for want of money. It was built of stones found on the spot, with new Chunar slabs added. The terrace existed before with the buttress, and is evidently of ancient construction.

The building is in two divisions, each of which is  $23\frac{1}{2}$  feet in length, connected together by a massive wall  $5\frac{1}{2}$  feet thick, composed of large blocks of stone. This wall projects considerably beyond the building into the courtyard to the east, and has the appearance of a huge buttress; but what its object is, seeing that the mosque, which is entirely of stone, is amply sustained by its columns and walls, and requires no such additional support, it is hard to say. Possibly the buttress is pierced with a staircase, leading formerly to an upper story which the buttress supported, and the Mohammedan architects, not caring to remove the massive prop, have retained it in the mosque. They appear, moreover, to have confined themselves chiefly to materials lying upon the spot, as in three places carved pillars, similar to those sustaining the centre aisle, have been adopted as architraves. There are fourteen columns in the interior of the mosque, which are peculiarly but not extensively carved, and are crowned with orna-

mented capitals. The western wall is strengthened externally by three rounded buttresses, which are of the Pathan dynasty, like those found at Jaunpore, and were built at the same time. They did not exist in the Buddhist period, and were added as much for ornament as strength. All the mosques about old Delhi have them.

There is no doubt in our minds that the Ad-Bisheshwar temple stood on this site, and was destroyed by the Mohammedans, who, as usual, transferred its stones to their own mosque. The neighbouring temple bearing this name, the Hindus built, with the kind permission of their friends, the Mohammedans, of course, for the purpose of perpetuating the worship and the honour of their old idol, Ad-Bisheshwar. Yet, while allowing that the edifice standing on the site of the present mosque when the Mohammedans took possession of it, was the temple of Ad-Bisheshwar, we are nevertheless equally certain that the primitive building was of a Buddhist character. We were inclined at one time to imagine that, from its proximity to the Buddhist Vihār No. V., it must have been a part of that monastery, but two reasons have led us to abandon that idea. One is, that a separate terrace of extensive dimensions was appropriated to this structure, whatever it was, and that between this terrace and that of No. V., the ground is depressed corresponding to the depression of all the neighbouring soil; and the second is, that the style of architecture of the ancient buildings upon or around the two terraces, differs exceedingly. We are led to conjecture, therefore, that the original structure was a Buddhist monastery, but later in date by several hundred years than the first monastery erected on the terrace No. V. It was of course a quadrangle, encompassing the four sides of the terrace. Nothing remains of it except the massive transverse wall with the buttress, and the lower portion of the retaining wall. The mosque has been erected perhaps on the site of the principal cloister of the monastery, its second division occupying the position of a smaller cloister. The amount of stone material expended on the present comparatively small building is preposterously great, and in itself is a proof that an edifice of much larger dimensions formerly stood here.

## STONE PILLAR.

*Soná-ká-Talao.*

Before closing this paper, we would direct attention to a stone pillar standing in the midst of a tank between the city of Benares and the Buddhist remains at Sarnath. The tank is called Soná-ká-Talao, or the Golden Tank, and is situated on the opposite side of the river Burna, near the road which branches off from the high road leading to Ghazeepore, and almost close to the point of its junction with several other roads. The road is a portion of the Panch-kosi or sacred boundary of Benares. Proceeding along it for somewhat less than a mile, you arrive at the tank, which is to the right of it, and is approached by a strong and well built ghaut, on which are several Buddhist figures, brought most probably from Sarnath. It is three hundred yards in length, and one hundred and forty in breadth. In the midst of it is a round pillar, eighteen feet high and upwards of nine in circumference, composed of great blocks of stone cut in quadrants and put together without cement or mortar. There is no inscription on the pillar, and no mason marks, so that we have been totally unable to assign any date, even approximately, to its erection. Its base is always, we believe, surrounded by water; yet it would be worth while to ascertain whether any inscription exists below. We probed it to its foundations, but found no face for an inscription. It is likely that both the pillar has somewhat sunk, and that formerly the tank was less choked with mud than it is now. In appearance therefore the pillar was once higher than at the present time. It was probably surmounted formerly by a lion or some other figure, and on close examination bears marks of extreme old age.

Besides allusions to a few other ancient structures, we have in this paper traced out remains, more or less abundant, of six Buddhist vihárs or monasteries and four Buddhist chaityas or temples, still existing in Benares, and have pointed out the sites on which they stood or are still standing. Add to these the remains at Bakarya Kund already described in a former paper, and we have the remains of seven monasteries and at the least seven chaityas. The monasteries are doubtless a portion of the thirty monasteries and upwards which Hwan Thsang, the Chinese traveller

of the seventh century, said existed in Benares in his day. In conclusion, we may remark that we are much inclined to believe that many of the ancient Buddhist monasteries, and of the temples also, were on a line of road leading from Bakarya Kund to Raj Ghaut Fort in one direction ; on a second line, at right angles to this, running from Bakarya Kund to Sarnath ; and on a third, proceeding from the site of Aurungzebe's mosque and joining one or both the others, possibly, at Bakarya Kund, and that hereabouts most of other remains of such buildings, if found at all, will be discovered.

*Note by the Rev. M. A. Sherring.*

Since the above was written, I have visited and examined the country lying on the banks of the Ganges to the north of the river Burna. To my utter astonishment, though I must confess, not contrary to my anticipation, I found brick and stone debris scattered over the fields for, as far as I could conjecture, five miles or thereabouts. In many places the rubbish lies thick upon the ground, choking up the soil, and to a large extent the deposit can be traced continuously. Here and there small bits of sculptured stone are visible, and occasionally, where the broken bricks and stones are in very great abundance, they have been collected into ridges or small mounds. This is especially manifest at the termination of the deposit at a spot called Patharaká Siwán, where, in ancient times, doubtless stood a large fort, of which the foundations may even now be partially traced. Although the fields beyond this point seem to be clear of rubbish, yet further on, at Muskábád, at the distance of a mile, it recommences and becomes as thick as in any other place. Perhaps this latter was the site of an outlying town.

But what are we to say of these remains? They lie immediately on the great river's bank, and never retreat from it more than three quarters of a mile. It is, I think, very evident that all the way from the mouth of the Burna this bank has been, with the lapse of centuries, considerably cut away. Indeed, I believe, that as much as a quarter of a mile may have gone into the river. In all probability therefore the space covered by debris was much broader than it is at present. There can be no question, however, that here a great city once stood. I have no hesitation in expressing my belief that in the

entire absence of any *bonâ fide* Hindu remains in the present city of Benares, dating from even the Buddhist period, not to speak of the pre-Buddhist epoch, when we know from historical records that Benares was in existence, the ancient city of the pre-Buddhist and early Buddhist eras must have occupied this site. Beyond the northern extremity of the remains of the ancient city is a series of mounds also covered with debris, tending in a north-westerly direction, where formerly forts or towns existed. I think it not unlikely that in a far distant age the connexion of the ancient city of Benares with Sarnath was along the course of these mounds. Sarnath is spoken of in the Ceylon records as though it may have been a city of itself; and there is no doubt that it is referred to in ancient documents as a part of Benares. Now, modern Benares is at least one-third of a mile to the south of the Burna, whereas Sarnath is out in the country about three miles to the north of that stream. If we suppose, however, that Benares, in its most ancient period, was mainly on the north side of the Burna likewise, and if such supposition is corroborated by extensive remains of ancient buildings in the shape of brick and stone debris stretching over several miles of country, as already shown, and terminating in mounds lying in the direction of Sarnath, the proof approaches to demonstration that in that early epoch a union, more or less intimate, existed between Sarnath and Benares, as stated by historical records. I had no opportunity to examine thoroughly the country lying between these remains and Sarnath, but I feel satisfied that at some point in these remains a line of debris would be found connecting the two spots, with only a few breaks in its course, the debris indicating the former existence of solid buildings and being the broken remains of the same. This point must not be searched for at the southern extremity of the ancient city, but at the northern extremity; and perhaps the line of junction may be the line of the mounds just now referred to; but of this I am not able to speak positively.

If these observations respecting the site of the early city be correct, it would follow that the derivation of the word Benares, as the city lying between the Burna and the Assi, is utterly absurd, as applied to the most ancient city. That it is a correct derivation of the word, as denoting the city of modern times even as far back as the Gupta dynasty, and perhaps somewhat further, I have not the smallest

doubt. But Banár-assi has nothing whatever to do with ancient Benares, and as applied to it would be a ludicrous misnomer. It seems, indeed, probable that the Buddhists were the first people to occupy to any extent the southern side of the Burna, and such a notion is remarkably substantiated by the existence of various Buddhist remains there, as described in this paper; but none of them, so far I know, date from earlier than the Gupta period. The Panchkosi road or sacred boundary of modern Benares, nearly fifty miles in extent, and regarded by many natives as of immense antiquity, is no older than the city which it encompasses, and must also be assigned to a comparatively recent date. Many pleasant and perhaps hallowed associations connected with Benares, as it now stands, will in the minds of multitudes be in danger of being snapped asunder, when they discover that the Benares of to-day was not the Benares which their forefathers knew.

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*Assyro-Pseudo-Sesostris.*—By HYDE CLARKE, Esq. Member of the German Oriental Society, of the Society of Northern Antiquaries of Copenhagen, of the Academy of Anatolia, of the Institution of Engineers of Vienna, Local Secretary of the Anthropological Society.

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As the monument near Ninfî (the ancient Nymphæum), and twenty miles from Smyrna, has of late years become a subject of some controversy, I have been very desirous of getting it photographed, and at length this has been effected (Plate XXI.) by the zeal and ability of Mr. Alexander Svoboda, an artist doubtless remembered by many members of the Society for his paintings of Indian scenes, and his having first photographed the caves of Elephanta and the monument of Ctesiphon, as he has latterly those of Ephesus.

Herodotus, in his second book, as is well known, speaks of the foreign wars and expeditions of Sesostris, and says that he erected various monuments of his victories, of which Herodotus had seen one in Syria, and there were two others in Ionia, one on the road from Sardis to Smyrna, and the other on the road from Ephesus to Phocæa, and that

the figures, four cubits and a spathamus high, held a bow in one hand and a lance in the other.

The words of Herodotus are :—

“The pillars which Sesostris erected in the conquered countries, have for the most part disappeared, but in the part of Syria called Palestine, I myself saw them still standing, with the writing above-mentioned, and the emblem distinctly visible. In Ionia also, there are two representations of this prince engraved upon rocks, one on the road from Ephesus to Phocæa, the other between Sardis and Smyrna. In each case the figure is that of a man, four cubits and a span high, with a spear in his right hand and a bow in his left, the rest of his costume being likewise half Egyptian, half Ethiopian. There is an inscription across the breast from shoulder to shoulder, in the sacred character of Egypt, which says, “With my own shoulders I conquered this land.” The conqueror does not tell who he is, or whence he comes, though elsewhere Sesostris records these facts. Hence it has been imagined by some of those who have seen these forms, that they are figures of Memnon, but such, as I think so, err very widely from the truth,”

Diodorus Siculus repeats the like, and says there was an inscription in hieroglyphics on the monument, of which he gives the translation,

As the monument near Ninfi agrees with the description of Herodotus, it is generally believed to be Egyptian, to bear a hieroglyphic inscription, and to be the Sesostris. As will be seen, there are traces of characters on the right hand corner, though what, cannot be made out. They are exceedingly unlike any hieroglyphic inscription, which will carry the meaning of Diodorus, and the rock is too soft for the minute characters of the hieroglyphic ever to have been carved upon it. It would not bear even the ring of the cartouche.

Who first doubted its Egyptian character, we have not the means here of knowing, but at any rate the geographers Kiepert and Carl Ritter have done so, and in their works the monument is figured as “Pseudo-Sesostris,” and is placed with the Assyrian class.

Unaware of this, some years ago, I visited the monument and arrived at the same conclusions, and I have since endeavoured to obtain the opinions of competent authorities in Europe. This corre-

spondence made me more urgent to get it correctly reproduced, and it is satisfactory that at length it can be examined by all interested in the subject, instead of the very few who could reach Ninfi.

It is reasonably to be doubted whether Herodotus ever saw this monument, because he has not described it with absolute accuracy.

The monument is quite off the road or any high road, and is a very unlikely place for a public monument of Sesostris. It is on a friable rock, and it is a miracle it has been preserved so many centuries. It was perhaps attached to the country palace of some king or satrap, or it may commemorate a battle fought in the glen. It does not bear the appearance of having been an object of adoration.

Its class is not distinctly Assyrian, for it wants the sharp touch of those workmen, and it must always have been of rude appearance.

It is allied to the Assyrian, and is the production of some people of Assyrian character.

The question arises, whether this monument and the neighbouring Niobe, and the other rock-cut pictures, are the works of settled inhabitants, or of an invading or conquering race. The latter seems to be the preferable hypothesis, because in this district, even in the time of Herodotus, there cannot have been more than three, and there are few scattered over the country. Those in this district most probably belonged to some petty kingdom.

With regard to their epoch, they are certainly as old as the Egyptian cities in their neighbourhood. These cities there form a close group, Smyrna, Tantalus, Sipylus and Nymphæum, attesting at one time a population of large and strong cities and a relative civilization.

These cities, as well from identity of remains with those in the South of Europe, as well from the identity of names with those of the Iberian nations, as well as from the fact of their population having endured beyond the Hellenic invasion, I place as anterior to that epoch, and as Iberian in character. This subject I have treated at length in a detailed memoir read before the Academy of Anatolia, the Ethnological Society, and the British Association.

The rock-cut monuments must, to some extent, have preceded the Iberian occupation, or may have been the result of an invasion during that period, proceeding from Cilicia and the south east, that is, from the Semitic district.



As yet the elements for the determination of these pre-historical questions are very few. They are indeed hardly known, and we are not yet in a situation to judge of the ethnology, the monuments, or the mythology either of an earlier or a later age.

There are two elements in particular that exercised a great influence over this region, that have not been adequately studied, the Iberian and the Caucaso-Tibetan. The remarkable discovery of Mr. B. H. Hodgson, communicated to your Society, of a connection between the tribes of the Caucasus and those of the Himalaya and its valleys, opens up new views as to the history of Central and Western Asia, and will in time afford one of the keys for unlocking their secrets, not less valuable perhaps than those applied to hieroglyphics or cuneiform.

I was led by a like train of investigations with Mr. Hodgson to the like results, and I am glad to find that what I have done, has been in confirmation of such an authority. I lately communicated a paper on this subject to the Asiatic Society of London, with the hope of inviting other inquiries.

It is perhaps by means of the Caucaso-Tibetan, that we shall obtain a knowledge of the early history of Iranistan, of the influences which have affected so peculiarly the early Indo-Europeans, the Armenians, the Ossetes and the Koords, of the third arrow-headed, and the Lycian.

It is here we shall perhaps find another element in the determination of mythology, though so far as the mythology of these regions is concerned, and particularly its local character, Iberian sources must be searched. It is there we must seek for the explanation of much of the mythology, and not in Sanskrit sources, however plausible such explanations may appear.

The Hellenes found a mythology ready made for them in the Iberian countries, in which they settled, and they adopted Iberian terms. To a certain extent, they brought with them Indo-European dogmas, and here Sanskrit philology will help us; but the local colony is Iberian. This western country of Asia Minor was, in fact, the seat of mythology and the land of the gods, before the Hellenes appeared. In some cases an Indo-European legend may have been attached to a local site, but the Hellenes borrowed more than they gave.

The Sesostris I propose to designate Assyro-Pseudo-Sesostris.

*Notes on some of the temples of Kashmir, especially those not described by General A. CUNNINGHAM, in his Essay published in the Journal of the Asiatic Society of Bengal for September, 1848.—By W. G. COVIE, M. A., Chaplain on duty in Kashmir, during the summer of 1865.*

[Received 1st December, 1865.]

In these notes I have followed as nearly as possible the wording of General Cunningham, in his description of the different temples, which he visited in Kashmir.

The temples of Bhaniyar, Wangat, Manusbal, Narayan Thal, Futtchghur, Dyamun, and Lidar do not seem to have been described before. What I have said about those of Pandrethan, the Takht, Pathan, Avantiswami, and Marttand, is meant to be supplementary to General Cunningham's accounts of those temples.

#### BHANIYAR.

The buildings at Bhaniyar consist of a lofty central edifice, standing in a large quadrangle, surrounded by a colonnade of fluted pillars with intervening trefoil-headed recesses.\* The ground plan of the temple is a square of  $26\frac{1}{2}$  feet with pilasters at the corners, 4 feet in thickness. The interior is a square of  $13\frac{1}{2}$  feet, and the walls are therefore  $6\frac{1}{2}$  feet thick, which proportion may be considered a strong proof, according to General Cunningham's† theory, of the antiquity of the building.

The roof was pyramidal, and the total height of the temple, estimated at twice its breadth, would be 53 feet. The lowest stones of the pyramid remain in some places, and their external slope is parallel to that of the sides of the pediments over the doorways. The only entrance to the temple is gained by a broad and lofty flight of steps to the N. N. W. On each of the other sides there is a porch containing a closed doorway.

These porches are just the same as that of the entrance, each being  $16\frac{1}{2}$  feet wide, with a projection of one foot in advance of the corner pilasters.

\* See Photograph, No. I.\*

† See Cunningham, p. 249, para. 6.

\* The photographs referred to in this paper are by Messrs. Sheppard and Bourne of Simlah —Ed.

The doorways are surmounted by trefoiled arches, 23 feet high ; and the latter are covered by pyramidal pediments, resting on independent pilasters. Within the large trefoiled arches, there are smaller pyramidal pediments, of which the tympanum is occupied with the trefoiled decoration, like that at Bhaumajo,\* resting on the architrave covering the pilasters of the doorway.

The pilasters at the corners of the building sustain the entablature, and give a look of strength and solidity to the walls, which was absolutely required for the vast and massive roof.

In the interior the walls are plain, except that (as at Narayan Thalt) a sort of string-course projects all round, about  $12\frac{5}{8}$  feet from the floor. It is about a foot high, flat above, and rounded below.

Over the string-course and resting on it, there is, on each side, a semicircular headed recess, about 3 feet high, 2 feet wide, and  $1\frac{1}{2}$  feet deep. Only the one at the back of the building, that is, towards the S. S. E., is pierced for a window, the opening being rectangular, and about 2 feet high by 1 foot in width. The roof is hollowed out into a hemispherical dome, of which the centre is decorated with an expanded lotus flower, as in the Payach† temple. The spandrels of the dome are too much injured to show any trace of figures, if any ever existed ; but the dome looks as if it were a modern restoration, and the whole is overlaid with thick whitewash, concealing the material of which it is constructed. There were, however, no figures in any other part of the building, except the tympanum of each smaller pediment over the architraves of the doorways ; and *there* the remains of heads (for such I took one of them to be) are now so much worn away, that it is impossible to say exactly what they represented. The colonnade had no such ornaments.§ (Plate XX.)

The basement of the temple is very fine. It is divided into two portions, each having the same style of mouldings as that of the Bhaumajo|| basement ; but they differ from it in being further projected beyond the face of the wall.

The lower portion is 47 feet square and  $5\frac{1}{2}$  feet high ; and the upper portion  $34\frac{1}{2}$  feet square and 6 feet high, with a projection of 4 feet. Each division of the basement has a massive filleted torus as

\* See Cunningham, plate X.

† See below.

§ See photograph, No. II.

‡ See Cunningham, plate XI.

|| See Cunningham, plate VIII.

the crowning member, with a straight fillet above and below. Under this is a dado, or plain straight face, which is a little higher than the torus itself. Beneath the dado, is a quirked ovolo of bold projection surmounted by a straight fillet, and under this is the plinth, of which (as at Bhaumajo) the lower stone projects beyond the upper one. As at Payach too, there is a stone drain or water-spout, open at the top, for carrying off the water used for the service of the temple. It emerges from the building on the W. S. W. side, and projects slightly beyond the upper basement; the termination of the drain or spout being made to represent the open mouth of a large snake or some other animal.

The temple is approached by a flight of twelve steps,\* the lower six being 11 feet in width, and the upper six 10 feet, enclosed between sloping walls one foot in thickness. Besides the sloping walls, the lower 6 steps are further supported by flanking walls† (as at Avantiswara,) nearly 6 feet high and  $3\frac{5}{8}$  feet thick.

The temple is enclosed by a pillared quadrangle (Plate IX.) measuring inside 145 feet by  $119\frac{5}{8}$  feet, the longer sides being to the W. S. W. and E. N. E., containing 54 fluted columns. In the middle of the longer sides of the colonnade, and of that in rear of the temple, there is a pair of large fluted pillars, 12 feet in height and 15 inches in diameter, and 10 feet apart, advanced beyond the line of the peristyle a little more than the corresponding pillars at Martand. On all these columns the transverse architraves, connecting them with the walls of the peristyle, are still standing. The central porticoes, to which these large pillars belong, are not gateways, but lead only to small chambered recesses, similar to, but a little deeper than, those between the other pairs of pillars. There is, however, one flank entrance to the quadrangle, viz., between the third pair of pillars on the E. N. E. side, to the south of the central porch. This has always been, as it is now, closed with a wooden door.

The quadrangle itself originally contained 48 round fluted pillars (of which all but three are still in their places) and six square parallel pillars (disposed in the corners, and on each flank of the gateway); which, together with the six pillars of the central porches and the two of the gateway, made up 56 in all. None of the pillars now

\* See Photograph, No. I.

† See Photograph, No. I.

standing seem to have been injured otherwise than by the wear of time and the elements; but from these causes, many of them have now lost all trace of fluting. Each pillar of the peristyle is 10 feet in height and 13 inches in diameter, with an intercolumniation of  $7\frac{1}{2}$  feet. Immediately behind each pillar there is a square pilaster  $\frac{1}{2}$  engaged, of the same height as, and with mouldings similar to those of, the square corner pillars. The pilasters are  $9\frac{1}{2}$  inches distant from the pillars. Between every pair of pillars there is a chambered recess  $7\frac{1}{2}$  feet by 4 feet, with a trefoil-headed arch covered by a pediment, (which pediment) is supported on small pilasters, or rather upon half\* engaged pillars, as at Avantiswámi. The general style of the pillars is similar to that of the Marttand colonnade; but it is impossible to say whether the pedimental pilasters of the intervening recesses were ornamented or not. The trefoiled heads of the recesses are joined to the side mouldings of the openings by short horizontal returns† (as at Avantiswámi). Each pillar is connected with its pilaster and with the main wall by a transverse stone beam, which, being broader at top than at bottom, bears the appearance of an upper capital to the pillar.‡ “The greatest and most characteristic distinction,” therefore, as General Cunningham says, “between the Arian and Classic orders, lies in the disposition of the architrave. In the latter it lies immediately over the line of pillars, whilst in the former it is placed over the transverse beams.” Nearly all of this entablature still exists, but the building has been so much injured by the weather, that its character can only be conjectured. It seems to have been much the same as the upper part of that given in No. 2, plate VIII. of General Cunningham’s Essay. The upper part of the roof of the quadrangle has entirely disappeared, but there can be little doubt that it was triangular in section.

The outer walls of the quadrangle are ornamented by fine deep horizontal bands,§ the intervals being occupied by rectangular figures 18 inches high, 13 inches wide, and  $4\frac{1}{2}$  feet apart, the whole being surmounted by an entablature of the same design as that of the peristyle. The base of the wall is buried deep in accumulated earth

\* See Cunningham, plate XVIII.

† See Cunningham, plate XVIII, and ante Plate IX. p. 92.

‡ See Photograph, (of Marttand colonnade), No. XXIV.

§ See Photograph, No. III

and rubbish; but to the S. W. of the gateway, and on a level with the bottom of the fluted torus which crowns its basement, is part of a similar torus,\* or string-course, projecting from, and running horizontally along, the face of the wall. This torus no doubt ran along the exterior face of the whole quadrangle, and is probably still in good preservation below the ground. Lastly, the front wall is ornamented at each extremity with a trefoil-headed† recess covered by a pediment, the latter resting on half engaged pillars, which are flanked by square pilasters  $\frac{1}{8}$  (one-eighth) engaged, in every way like those of the interior. The quadrangle has had two large wells in the W. S. W. and E. N. E. corners, probably to supply water for flooding the enclosure; and half way between the steps of the gateway inside and the steps of the temple there is a square structure of stone, cut away in the centre as if to receive the end of a prop to a raised pathway,‡ such as that suggested by General Cunningham as the probable connection between the gateway and the temple at Marttand. The object of erecting temples in the midst of water appears to him to have been “to place them more immediately under the protection of the Nāgas, or human-bodied and snake-tailed gods, who were zealously worshipped for ages throughout Kashmir.”

The entrance or gateway§ stands in the middle of the N. N. W. side of the quadrangle, and is  $25\frac{1}{2}$  feet in width, nearly that of the temple itself. Outwardly the gateway somewhat resembles the temple, in the disposition of its parts and in the decorations of its pediments and pilasters. It is open to the N. N. W. and S. S. E., and is divided into two distinct portions by a cross wall  $3\frac{3}{4}$  feet thick, with a doorway in the centre closed by a wooden door. These inner and outer porticoes of the doorway are each  $16\frac{1}{2}$  feet wide and  $6\frac{1}{2}$  feet deep. Their side walls are decorated each with a miniature temple having a square-headed doorway, surmounted by a pyramidal pediment representing a double roof. The tympanum of each compartment of these roofs is occupied with the trefoiled decoration, common to the Kashmirian buildings, resting on the architrave, as in the doorway pediments of the temple itself. The pediment of the gateway,

\* See Photograph, No. III.

† See Cunningham, p. 270, para. 25 and Photograph, No. III.

‡ See Cunningham, page 273, para. 31, and page 287, para. 8.

§ See Photograph, No. III.

outside and in, is supported on half engaged fluted pillars,  $16\frac{5}{11}$  feet high, and 14 inches in diameter. As at Bhaumājo, the base of the tympanum\* is reduced to two short returns of the horizontal mouldings of the pediment, each of which serves as a sort of upper abacus to the pedimental pilasters. The doorway pilasters, supporting the architrave ( $2\frac{1}{2}$  feet high, and broken through as usual in the temples of Kashmir), are as high as the base of the main pilaster capitals, and  $4\frac{1}{8}$  feet higher than those of the quadrangle. Besides the doorway pilasters, there are two fluted columns of the same height (including a sort of second capital) and  $18\frac{1}{2}$  inches in diameter, one on each side of the entrance,  $7\frac{2}{3}$  feet apart, supporting the architrave. The second capital corresponds to the transverse beam of the peristyle connecting the pillar with its pilaster; but here it is detached on all sides. It is cruciform,† and so projects on each side of the capital proper. These columns are distant from the square doorway pilasters respectively about one diameter. The roof of the gateway, like that of the temple, has perished; but it was evidently pyramidal, for the corners of the base of the great pediments (outside and in) remain, and their angles are equal to those at the base of the doorway pediments.

The basement of the gateway is approached on either side by a flight of six steps‡  $7\frac{1}{2}$  feet wide, supported by flank walls  $7\frac{3}{4}$  feet in length, and terminating in upright stones,§ each separated by an interval from the main wall, and ornamented with a standing figure, said by the pundits to represent a servant of Siva.

The material of which the buildings are constructed, is a pale, coarse granite, of which there seems to be no quarry within reach on the left bank of the Jhelum. This circumstance is remarkable, considering the enormous size and weight of some of the stones employed. Mr. Drew, a geologist in the service of H. H. the Maharajah, thinks that the blocks of granite must have been carried down some of the valleys on the opposite side into the river bed, whence they were brought for the construction of the temple. Mortar has been used in all parts of the buildings. Opposite the gateway,

\* See Photograph, No. III.

† See Photograph, No. III. and Cunningham, pp. 269-70, para. 24.

‡ See Photograph, No. III.

§ See Photograph, No. III.

across the road, there is a large cistern, (like that attached to the central temple of the second group of buildings beyond Wangat\*), cut out of a single block of granito. It is  $6\frac{1}{2}$  feet long, 5 feet wide, and  $2\frac{1}{2}$  feet high. There is another cistern† of the same kind, but of smaller dimensions, close by.

The Hindoos residing on the spot say that the temple was built by one Bonadutt (hence the name Boonyar), whose brother built or began a temple at Venapoorā beyond Sopur. The situation is very fine, in a deodar forest on the left bank of the Jhelum, which roars below as it descends in foaming cataracts. Immediately behind, the pine-clad hills rise precipitously to a great height. About one-third up, there is a strange formation of rock, resembling a human figure, which is said by the pundits to be the petrification of an evil spirit, who formerly devoured men and women passing that way. A very holy fakir, they say, fixed the man-eater for ever where the figure is now seen.

After carefully examining every part of the Bhaniyar buildings, I am inclined to think that they are older than the quadrangle at Martand‡, and of about the same age as the temples beyond Wangat.

They probably owe their escape from the hand of the destroyer to their secluded situation, which is quite off all the old thoroughfares leading from the Punjab to Kashmir, about three miles lower down the Jhelum than Nowshera, on its left bank.

I found no trace of an inscription on any of the buildings.

#### TEMPLES AT LIDAR.

About half a mile beyond Ladoo, and two miles to the left of the road leading from Pampur to Awantipore, there are two temples, one surrounded by water, (Plate XIV.) and a smaller one, close by, a little higher up the hill side.

The ground plan of the former is a square of 24 feet, with corner pilasters  $3\frac{1}{2}$  feet thick and 6 inches projected. There is only one doorway, to the W. S. W. Its head is semicircular, with a pyramidal pediment slightly projected and divided into two portions, of which the upper one is plain, and the other is occupied by a semicircular

\* See below, p. 106.

† See Photograph, No. III.

‡ See Cunningham, p. 263, para. 10.



ornament. The apex of the pediment reaches to the top of the cornice, which runs round the top of the walls on the outside. The roof is entirely gone.

The interior is a circle, the diameter of which diminishes from the ground upwards. Four feet from the floor it is  $17\frac{5}{12}$  feet. There is a cornice 20 inches high,  $9\frac{5}{12}$  feet above the floor. Its mouldings are the same as those of the lowest course of the ceiling of the small temple,\* viz. three fillets, like those of the Payach dome,† but that the edge of the middle one is round instead of square.

The diameter of the circle formed by the projecting edge of the cornice is 15 feet. The thickness of the wall at the doorway is  $3\frac{3}{4}$  feet. The wall on the inside shows signs of fire having been used, perhaps to destroy the roof, which may have been of wood. The top of the doorway inside is formed by the underside of the course from which the cornice of the interior is projected.

There is a drain on the south side, as at Payach, for carrying off the water used in the services of the temple. The height of the wall outside from the top of the cornice is  $10\frac{1}{3}$  feet. The corner pilasters stand on a basement  $2\frac{5}{12}$  feet high, and are  $6\frac{1}{2}$  inches projected beyond the face of the wall (See Plate XIV.) This basement is carried all round the building, except where it is broken by the doorway; the bottom of the basement being on a level with that of the doorway.

The uppermost course of the basement is nearly flush with the corner pilasters, but the next two courses project  $5\frac{1}{2}$  inches beyond the uppermost one.

The basement of the temple stands on a platform 48 feet square, faced with stone walls, forming a sort of lower basement, as at Bhaniyar.‡

The whole stands in the middle of a tank of very clear water, which issues from two springs in the N. E. corner. The tank is now 3 feet deep, but I could not ascertain whether there was a stone bottom below the accumulated mud. The tank has been a square of about 70 feet, with stone walls supporting the bank, now 2 feet above

\* See below, p. 100.

† See Cunningham, Plate XI. and page 258, para. 10.

‡ See Photograph, No. 1. and ante, p. 92.

the water line, but much injured. Round the tank there are the foundations of walls,\* which seem to have formed a square of 100 feet.

There is an ancient looking *lingam*  $4\frac{1}{8}$  feet high,  $1\frac{1}{2}$  feet in diameter, with 8 flat faces, of dark limestone, standing in the water near the springs which supply the tank. It probably once stood in the centre of the temple, like that at the Takht.

The round head of the doorway outside has a sort of keystone (Plate XIV.), being a projection from the lower face of a stone of the course next above, as in the entrance to the temple at Marttand,† and other Kashmirian arches.

The smaller of the Jidar temples stands a little above and behind (*i. e.* to the north of) the first. Its ground plan is a square of  $10\frac{1}{8}$  feet. It has only one doorway, viz., to the west. All the walls have corner pilasters 15 inches thick.

The doorway has a square top covered by a pediment, which rests upon the jambs of the door, the tympanum being occupied by the trefoiled ornament. The trefoil contains a niche which once held a figure. This pediment is covered by another, having a trefoiled tympanum. The trefoiled arch rests, as usual, upon small pilasters on each side of the door, but the pediment is supported upon bold square pillars, which are attached to the building by walls of less breadth and 8 inches long. The temple in front is a plain copy of that at Pandrethan,‡ or perhaps the original from which it was taken. The capitals of the corner pilasters are ornamented with two animals (I think Bulls) standing back to back; and those of the square pillars, supporting the principal pediment, are decorated with a bold flowered ornament. The roof of the building is pyramidal, but its outer facing of stone has disappeared. The walls are  $2\frac{1}{2}$  feet thick. The basement is buried. The interior forms a square of 6 feet, the walls being 7 feet high and plain.

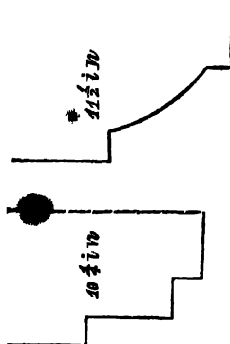
The ceiling is formed of 9 blocks, four of which rest over the angles of the walls. The same process is again repeated with an upper course of four stones, by which the opening is still further narrowed to a square of  $2\frac{7}{8}$  feet; and lastly, the opening is closed by

\* See Cunningham, p. 288, para. 11.

† See Photograph, No. XXIII.

‡ See Photograph, No. V.

a single stone without ornament. The edges of the lowest course have a plain moulding of three straight edged fillets, (Vide woodcuts) and the upper course a similar one, except that the central fillet is rounded.



To the east and west of the temple are rectangular foundations, of the same width as, and continuous with, that of the temple itself; but there is no trace of surrounding walls. There are, however, numberless hewn stones lying about in all directions. From the position of the building, the ground being high on three sides

it may once have stood in water, like the other temple. The pedestal of a *lingam* remains in the centre of the interior.

#### BHAUMAJO.\*

At Bhaumajo (pronounced Bhoomzoo by the natives) there are two temples, besides that described by General Cunningham. The larger of the two has been appropriated by the Mahomedans for a tomb, and disguised as much as possible; so much so, indeed, that when first I visited the *cave* temple, I did not think it worth while examining this other close by, on account of its new and plastered appearance. It is, however, in a very perfect state of preservation, but its details cannot, at present, be seen on account of the thick plaster with which the building is in most parts overlaid. The pyramidal roof is probably uninjured, but it is buried in a mound\* of earth surmounting the square Mahomedan roof, which now disguises the nature of the building. With some difficulty, I obtained admission to the interior, which I found to be a square of 8 feet. The ceiling is like that of the smaller temple at Lidar.† There is a door on the north side, but the other walls are covered with plaster, rendering it impossible to see whether they once had doors or not. The third temple, however, on the west of the tomb, has only one door, viz., to the north.

The exterior is a square of  $16\frac{1}{2}$  feet, with corner pilasters 2 feet  $1\frac{1}{2}$  inches thick. There are porches with high trefoiled arches on

\* See Cunningham, page 251, and the Bishop's letter to the Asiatic Society, 1865.

† See ante, p. 99.

all the sides. I could not find out how far the porches project beyond the walls, owing to the plaster; but the one on the river side (where the door is) projects 3 feet beyond the small pilasters which support the doorway pediment.

The intervening spaces between the sides of the porches and the corner pilasters are filled in with mortar.

The small pediment of the doorway within the trefoiled like that of the cave temple,\* but is supported on independent pilasters of its own. The porches are 11 feet one inch wide.

To the west of the temple above described, also on the bank of the river, are the remains of a smaller temple of the same kind. Its interior is a square of 7 feet, with a roof like that of the smaller temple at Lidar.† Below the roof is a cornice of three square edged fillets, like those of both courses of the ceiling.

The building has, I think, had no corner pilasters. It has porches on all four sides, 5 inches projected. The only opening is on the north side: the other porches containing closed doorways, which, like the porch pediments, are an exact copy of those of the cave temple.‡ The exterior of the roof has been destroyed.

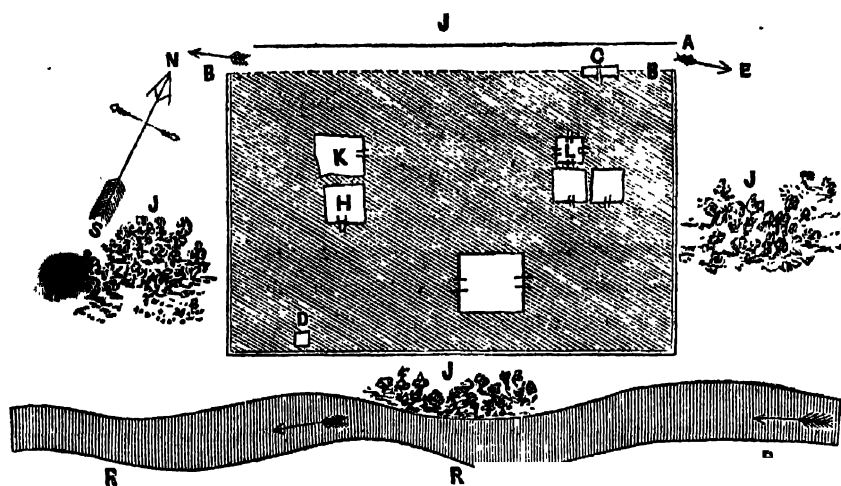
#### TEMPLES NEAR WANGAT.

About 3 miles above Wangat, on the right bank of the river Kanknai, are two groups of temples of all sizes, more or less in a state of ruin.

\* The first group, viz., that nearest to Wangat, consists of six temples,§ with a gateway and an enclosing wall. (See woodcut, p. 102) The ground plan of the principal building is a square of 25 feet, with pilasters at the corners  $3\frac{2}{3}$  feet in thickness, and having a projection of two inches beyond the temple walls. There are four porches  $14\frac{1}{2}$  feet wide, with a projection of  $2\frac{5}{8}$  feet beyond the corner pilasters. On two sides they contain closed doorways, the recesses of which (like those at Pathan||) once held *linga*, whose pedestals are still in their places.

The porches were all surmounted by pediments of high pitch, covering trefoiled arches, which rest on  $\frac{1}{4}$  engaged square pilasters. Over each

\* See Cunningham, plate X. † See *ante*, page 99. ‡ See Cunningham, plate X. § See Cunningham, p. 273, para. 31. || See Cunningham, p. 283, para. 1.



## References.

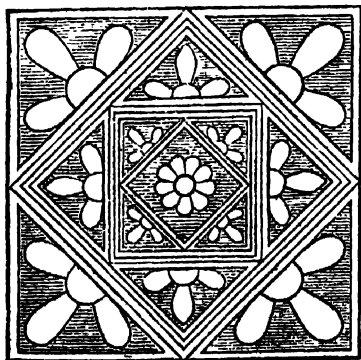
- |  |   |
|--|---|
| A. Massive wall forming facing to hill.        | J. (On top). Steep mountain side covered with jungle. |
| B.B. Foundation of original wall of enclosure. | J.J. (On sides). Dense jungle.                        |
| C. Gateway.                                    | K. Temple to west.                                    |
| D. Base of lingam.                             | L. Temple to east.                                    |
| E. Road to second group.                       | N. Road to Wangat.                                    |
| H. Temple to west.                             | R.R.R. Kanknai river.                                 |

doorway, within the large trefoil arch, is a pyramidal pediment, of which the tympanum is occupied with the trefoil ornament, resting on the architrave which covers the pilasters of the doorways. The base of the great pediment of the porches is on a level with that of the capital of the corner pilasters, but the upper portions of these pediments have disappeared. There were two entrances, to the E. N. E. and W. S. W. respectively. The former has the remains of short flanking walls (afterwards added, it would seem) projecting  $2\frac{5}{12}$  feet beyond the porch. They do not appear to have risen higher than the base of the capitals of the porch pilasters. The roof is still standing, and is pyramidal, but its outer facing of stone has fallen, forced out, probably, by the expansion of the roots of a tall fir and other trees, which grew out of the pyramid. The interior, which has been much injured by fire, is a square of 17 feet, the walls below the cornice being  $13\frac{1}{2}$  feet high, and plain; but the roof forms a hemispherical dome, 17 feet in diameter, of which the centre has been decorated by a large expanded lotus flower. The cornice is one foot high, with a moulding of three bands; the upper two projecting each beyond the one below it.

The stones of the interior of the dome diminish in size, from about  $1\frac{1}{2}$  feet long and 6 inches wide in the lower courses, to squares of about six inches near the centre. The foundation of the dome is formed of large blocks of stone, about 2 feet high, decorated with three straight edged fillets as at Payach,\* the two upper ones broad and projecting each beyond that immediately below it, and the lowest narrowest. The spandrels of the dome are plain and horizontal.

Within a few yards of the principal temple, to the north, there are the remains, more or less ruined, of five small temples, three to the east (L), and two to the west (H and K). All but one of them are built on the same general plan as the temple already described, but have only one door each. The two to the west have their doors to the east and south respectively. The doorway of the latter (H) is like that of the temple A of the second group, described below. The other three sides of H are decorated each with a miniature double-roofed temple, but without an enclosing porch like those of A. It has a water-spout on the north-west side. The other temple on the west (K) has been a copy of the principal building, without the second doorway.

Of the other three small temples, that corresponding in position to the one nearest the central building on the west, has its door to the south east, and is built on the same plan as H. So has the next one to it (almost touching it) on its north-east side. Its walls have been plain on three sides, and there is a waterspout on the west. The third of these temples, almost touching the first (on its north side), has four doorways; that on the east being larger than the others, with



(I think) a flight of steps to the east. (L). It has a stone water-spout projecting on the N. W. W. side. In the interior the walls are plain. The ceiling (as in the Pandrethan temple,† Plate XVIII.) is formed of 9 blocks, four of which rest over the angles of the walls and reduce the opening to a square. The same process is again repeated with an

upper course of four stones, by which the opening is still further nar-

\* See Cunningham, p. 258, para. 10. † See Cunningham, p. 288, para. 10.

rowed to a square of  $2\frac{1}{2}$  feet; and lastly this opening is covered by a single stone, decorated with a large expanded lotus surrounded by a narrow square moulding, whose angles bisect the sides of the upper opening of the ceiling. All the angles are occupied by a flowered ornament of three leaves, something like that of the upper part of the tympanum in the niche of the upper roof at Payach.\*

The gateway, about  $22\frac{1}{2}$  feet wide, is to the N. N. E. of the bipal temple, almost in the N. E. corner of the enclosing wall, and about 30 feet from the nearest of the smaller temples. It was divided into two chambers, and had two columns on each front; one on either side of the entrance and supporting the architrave, as in the Bhaniyar gateway.† The surrounding wall formed on two sides a facing and support to the platform, on which the temples stand. On one of these sides, viz. that to the east, the wall is over 20 feet high in some places, and is built of small thin dark-coloured stone without mortar. On another side, viz. that on which the gateway is, and the furthest from the river, only the foundation remains; but 14 feet beyond it there is a second wall, very massive, built of rough blocks of stone, and forming a facing to the hill. It has evidently been erected at a later date, to protect the temples and the gateway from a landslip (probably), which threatened to bury them all in its descent towards the river.

There is built up in this wall a fragment of the pediment of one of the smaller temples. At the S. W. corner of the enclosure there is the base of an enormous *lingam*,  $5\frac{1}{2}$  feet in diameter.

From the N. E. corner of the first group of temples there was a road-way flanked with large stones, leading down to the second group, a few hundred yards distant. Half way down, a little to the right of the road, are the ruins of a small solitary temple, but so much injured that it is impossible to make out the original form of the building. Close to it is a block of granite (measuring 10 feet in length, 16 inches in height, and 26 inches in thickness) which seems to have formed part of the facing wall of a resting-place just above it, where the base of a small column is still in its place, at one corner of a rectangular platform. A little further down the road, on the same side, is another rectangular platform, which seems to have been the

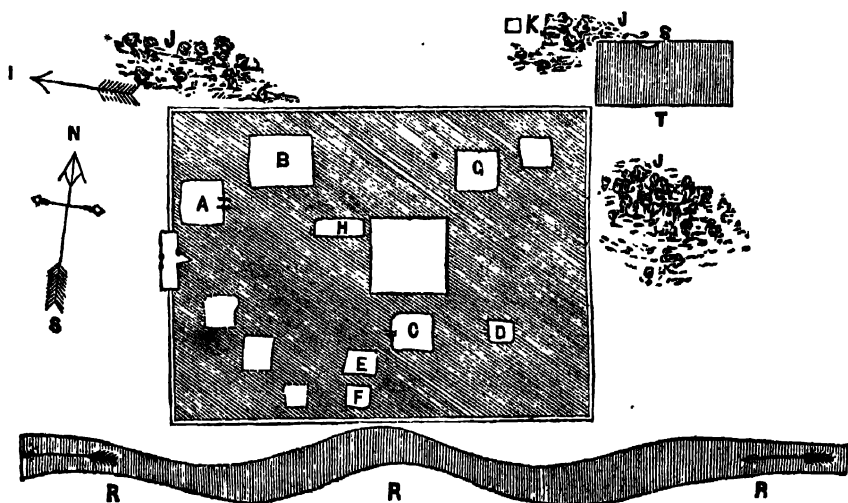
\* See Cunningham, plate No. XII.

† See *ante*, p. 96, and Photograph, No. III.

basement of a *bara durree*, or some such structure, 100 feet long and 67 feet wide. It must have had a broad open verandah all round. The bases of the pillars on one of the longer sides (*viz.* that to the east), eight in number, are all but one still in their places. The pillars were fluted and two feet in diameter, with an intercolumniation of nearly  $12\frac{1}{2}$  feet. Numerous fragments of them are lying about in all directions.

The uppermost course of the basement stones (on which the pillars stood) are 15 inches high, and project about 5 inches over those of the second course (which is almost entirely buried in the ground). In the centre of the platform there are the remains of what appear to have been the walls of an apartment.

About 20 yards to the N. E. of the platform there are the ruins of the enclosing wall of the second group of temples eleven in number, (see woodcut below), with the remains of a gateway in the centre, about  $22\frac{1}{2}$  feet wide, similar to that belonging to the first group.\* Like



#### References.

A. to G. Temples.  
H. Cistern.  
I. Road to first group of temples.  
J.J.J. Jungle.

K. Small temple on hill side.  
R.R.R. Kanknai river.  
S. Spring.  
T. Tank.

the latter, it was divided into two chambers, and had flanking pillars to the front and rear, like those at Bhaniyar.† Their

\* See *ante*, p. 104.

† See Photograph, No. III.



bases on the river side are still in their places. Immediately inside the gateway, to the left, are the ruins of a small temple A, like those of the first group. Its only entrance, a trefoiled arch covered by a pediment resting on independent pilasters, looks to the N. E. i. e. in the direction of the central building. Over the doorway pediment, and resting on square pilasters, is another trefoiled arch, occupying the tympanum of the porch pediment. The square pilasters project 15 inches, and are attached to the building by short walls, as at Pandrethan.\* The other three walls are ornamented with similar porches, projecting about 6 inches, and containing each the front of a miniature temple with two roofs. The recesses once held *linga*.† The interior is blocked up with the debris of the roof.

Between A and the principal temple, and a little to the north of them, are the ruins of another temple (B), of which the basement alone remains, amid a heap of huge stones, earth, and jungle. The ground plan of this building was a square of about 18 feet with corner pilasters  $2\frac{3}{4}$  feet thick, and four porches projecting about 14 inches beyond the pilasters.

Close to the central and principal temple, at its N. W. corner, is a huge cistern (like those at Bhaniyar†), cut out of a single block of granite, 15 feet long,  $7\frac{1}{3}$  feet wide, and 3 feet high, with a projecting spout on the W. S. W., one of the shorter sides.

The central building here is much more injured than that of the former group, and is buried half way up the porches on two sides. It appears, however, to have been very much like the corresponding temple of the first group, but it had only one entrance, viz. towards the W. S. W. facing the gateway.

The interior is a square of 17 feet. The lowest course of the dome, consisting of 8 stones, each 22 inches high, has not the mouldings which the other dome has in this place, but seems to have had one narrow plain moulding at the edge, and above it there is a concave course, about 18 inches high, with a moulding resembling the frieze of entablature No. 2, (of Marttand), given by General Cunningham on plate VIII accompanying his Essay. The entrance has the remains of projecting walls, like those of the large temple in the first group.

\* See Cunningham, plate XXI. † See Cunningham, p. 283, and plate No. XX.

‡ See *ante*, p. 97.

§ See *ante*, p. 102.

The corner pilasters of this temple are 4 feet thick, the ground plan being a square of 25 feet, as in the other case. A few yards to the S. S. E. of the central temple is a small one (C), seven feet square, with one round-headed doorway  $3\frac{5}{8}$  feet wide, having mouldings the same as those of G, and looking in the same direction as that of the principal building. On the other three sides, there are similar porches with closed square headed doorways. The basement (of which part only is above the ground) seems to have been like that of Bhaumajo.\* The entablature over the doorways, beneath the base of the pyramidal pediment, like the entablature over the corners of the building (on each side of the pediment) is decorated like frieze No. 2, of the Marttand entablature, shewn by General Cunningham. The porches project  $4\frac{1}{2}$  inches. The interior is a square of  $4\frac{3}{4}$  feet. The roof is constructed of horizontal courses, like these of L. (Woodcut on p. 102.) The uppermost stone is decorated with an expanded lotus flower. The two lower courses are ornamented each with a moulding of three square-edged fillets, like those of the Payach dome.†

To the N. N. E. and S. S. W. of this small temple are the ruins of two others. That in the former direction (D), a mere heap of ruins, had its only entrance on the same side as that of the central temple. The other (E) is a heap of huge stones, scarcely one of which is in its original place. Eight feet behind the S. S. W. temple is a fourth small one (F), with a square headed doorway which has plain perpendicular and horizontal mouldings. There are similar doorways on the other sides, but only that on the N. N. W. has an opening. The interior is a square of  $5\frac{1}{2}$  feet. The roof has been formed of horizontal courses, of which the lowest alone remains, forming a square opening of about 4 feet. The walls are 20 inches thick.

There has been another small temple to the S. S. W. of that last described, but it is now only a heap of stones; and on its N. W. side I think there are the foundations of one, if not two, more temples.

To the N. N. E. of the central building are the ruins of a very elegant temple (G), the interior of which formed a square of about 9 feet. The walls were plain, with a cornice of 3 horizontal bands, the centre one having a rounded edge. The walls are  $2\frac{7}{8}$  feet thick,

\* See Cunningham, plate No. X.

† See Cunningham, plate No. XI.

The only entrance is to the S. S. W. The head of the doorway is round, and has a few parallel and perfectly plain mouldings, which are joined to the similar mouldings of the sides by short horizontal returns. To the N. E. of the last, and a few feet only distant, are the ruins of another small temple, the ground plan of which was a square of  $6\frac{1}{2}$  feet.

The wall enclosing all of these buildings, has been plain and very massive. Many of the stones are still in their places on the N. N. W. side, some of them being 7 feet long, 22 inches high, and 22 inches thick. The wall measures 161 feet by 118 feet, the longer sides being towards the river and the hill respectively. On the former side the wall forms a support to the platform on which the temples stand; and on the latter, a facing to the hill side, which has either been cut away to form the quadrangle, or has subsequently come down in a landslip, threatening to bury all the buildings in its descent towards the river. Wherever the lower part of the wall remains and is visible on the outside (as it is near the gateway), there is a string course, like that at Bhaniyar.\*

Immediately beyond the enclosing wall, at its N. N. W. corner, is a tank (T) of most delicious water, very cold and clear. The bottom of the tank is considerably above the level of the quadrangle, which might therefore have been kept flooded from the tank. The water issues from the hill on the N. W. W. side of the tank, through the stones of the wall, and was probably the cause of this site being selected for all these buildings. Not only the temples, but the neighbourhood is now forsaken by all human beings, and there is not a *resident* Hindu for many miles. But the spring (S) still runs on the same as ever, affording another instance of the temporary nature of man's greatest devices compared with that of things not human.

To the west of the tank, and the north of the second group of temples, on the hill side, and almost buried in the ground, are the ruins of a small solitary temple. The roof is broken into two portions (like that of the Payach temple†), of which the upper one, a pyramid formed of a single stone  $2\frac{1}{2}$  feet square, is still in its place.

The situation of the two groups of buildings is very wild and secluded, but not grand like that of the Bhaniyar temple.

\* See *ante*, p. 94, and Photograph, No. III.

† See Cunningham, plate No. XII.

They are on the right bank of the Kanknai river, about 3 miles above Wangat, and not on the Brahimsur stream, where the latter place is incorrectly marked in the trigonometrical survey map. The Kanknai is nearer to the temples than the Jhelum is to that of Bhaniyar, and is quite as noisy as the latter river, but its dimensions are much less. The mountains on both sides of the stream above the temples rise to a great height and are very steep. They are covered with forests of pine and fir; and, not far distant to the N. N. E., the head of the valley is closed by a bare, dark green hill, with the snow still remaining in its clefts on the 27th of July. The temples are built of a coarse, pale granite, like that used at Bhaniyar, and mortar is found in most of the buildings. There are tall firs growing out of the roof of the principal temple of each group, and many of the smaller temples have been much injured by other trees forcing their way through the walls.

The best way to the temples from Srinagar is by Gundurbul, Kuchnungul, and Wangat.

#### DYAMUN, BETWEEN NOWSHERA AND URI.

On the left bank of the Jhelum, between Nowshera and Uri, and about  $3\frac{1}{2}$  miles from the latter place, are the ruins of a fine temple and gateway, similar to those of Bhaniyar.\* There has been also a surrounding quadrangle, but very little of it remains.

The ground plan of the temple is a square of 23 feet, with corner pilasters  $2\frac{5}{8}$  feet thick and six inches projected beyond the walls of the building. The porches, of which three contain closed doorways, are each 16 feet wide, with a projection of  $1\frac{3}{4}$  feet. The doorways have square heads with plain straight mouldings, and are surmounted by pediments containing the trefoil ornament. The pediments are supported on half engaged fluted pillars. The only entrance, viz. to the W. N. W., is approached by a flight of steps like that of Bhaniyar.†

The interior is a square of 12 feet, but is nearly filled up with the debris of the pyramidal roof. The interior walls had a cornice of three plain mouldings, like those of one of the larger temples at Wangat.‡ Part of the pyramidal roof is still standing. It has been

\* See *ante*, p. 91, and Photographs, Nos. I. II. III. and XIII.

† See Photograph, No. I.

‡ See *ante*, p. 102.

very massive, but hollow. The basement of the temple is like that of Bhaniyar,\* but a good deal of it is concealed by earth and jungle.

The steps of the temple are about  $19\frac{1}{2}$  feet from those of the gateway, but the latter are covered with earth and fragments of stone.

The exterior face of the surrounding wall has been ornamented like that at Bhaniyar,† and there were two recesses in the corners of the front wall, like those at Martand and Bhaniyar. The colonnade of the interior has entirely disappeared, if any ever existed. I found no fragments of small columns, like those of the Bhaniyar peristyle; but the quadrangle is so filled up with earth, fragments of stone, trees and jungle, that whole pillars may be concealed from view. I think there was a peristyle; because behind the temple I found part of a basement, like that on which the columns of the peristyle stand at Bhaniyar ‡

The gateway is built on the same plan as that at Bhaniyar,§ and is  $23\frac{1}{2}$  feet wide. It is divided into two compartments, each 17 feet by  $5\frac{1}{2}$  feet. The short side walls of each compartment are decorated with two trefoil headed niches, one above the other, with pyramidal pediments. The upper part of the gateway has disappeared, but fragments of the four large fluted columns which supported the architrave, are lying about in the neighbourhood, and also the capital of one of these columns, elaborately carved with small figures and flowered ornaments. Nearly the whole of the outer wall of the quadrangle is still standing, but its character is concealed, in most parts, by the earth which on three sides is up to the top of the wall. The whole of the ruins are so buried in jungle that I passed along the road, on my way to Kashmir, without noticing them at all. The material is black stone (I think limestone), streaked with veins of white marble.

The situation is wild, like that of the Bhaniyar temple, the hill rising to a great height immediately behind the ruin.

#### MANUS BAL.

At the S. E. corner of the lake of Manus Bal, there is a small temple, of which the roof only was above the water on the 9th of

\* See Photograph, No. I.

† See Photograph, No. II.

‡ See Photograph, No. III.

§ See Photograph, No. III.

August. (Plate XIX.) In the winter, I was told, the building stands on dry ground. At other seasons the whole is sometimes below the surface of the lake.

The roof is very like that of the Payach temple,\* being broken into two distinct portions by an ornamental band; each portion being formed of a single stone. The upper stone is 5 feet square at its base, and is plain on all sides. The ornamental band† is like that of Payach, divided into spaces alternately projecting and retiring. The latter are square and occupied by the lotus; but the projecting ends are carved into upright mouldings, slightly rounded at top and bottom, and surmounted by a straight and horizontal band. The north, south, and east sides of the lower portion of the roof are plain. The top seems to have been crowned by a melon-like ornament, of which the base only remains.

The temple appears to be a square of about 6 feet, and has only one doorway, to the west, covered by a pyramidal pediment, which is divided into two portions by a horizontal return of the side mouldings, as in the case of the Marttand colonnade.‡ The upper portion is occupied by the head and shoulders of a figure holding a sort of staff in the left hand, and with something, which I could not make out, under the left arm. (See Plate XIX.) In the niche (like those at Payach§) formed by the trefoil over the doorway, there is a sitting figure, holding a sort of club in the left hand. The angles of the lower portion of the doorway pediment, below the horizontal moulding and above the trefoil, are occupied each with a naked figure leaning against the head of the trefoil, and holding up over the arch a sort of waving scarf, which is passed on through their other hands.

## LANKA.

On Lanka island there are the ruins of a very fine temple. Its ground plan appears to have been a square of  $34\frac{1}{2}$  feet, with a sort of antechamber to the S. E. E., which is 11 feet wide, including the walls. The latter are  $2\frac{1}{2}$  feet thick. This *antechamber* projects  $5\frac{1}{2}$  feet beyond the walls of the *Naos*. The exterior walls of the temple are ornamented with two rows of deep niches with cinq-foiled

\* See Cunningham, plate No. XII.

† See Cunningham, plate No. XVI.

‡ See Cunningham, plate No. XII.

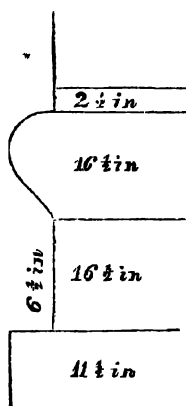
§ See Cunningham, plate No. XII.

heads, flanked by half engaged fluted columns. The wall on each side of the antechamber has three of these niches in each row, i. e. 12 niches in all.

There are many small pillars lying about, almost uninjured, and more fragments of similar pillars. The columns measure 8 feet  $6\frac{1}{2}$  inches, including base and capital, the latter being like that of the small pillars of the Marttand\* peristyle, but with beading between the egg-shaped ornaments. The capital of these pillars is  $14\frac{1}{2}$  inches in height. They have 6 flutes, and their diameter is  $16\frac{1}{2}$  inches. The exterior face of the walls of the antechamber have only one of the niches in each row.

The doorway is to the S. S. E., but I did not feel sure that there had not been doors on the other sides also.

On the S. S. E. side of the island there is a flight of steps with flanking walls; and close by, in the water, a large *lingam*. There are heaps of hewn stone on all sides of the island at the water's edge, including fragments of square headed doorways, pyramidal pediments, &c., and I think the island must all have been surrounded by a quadrangular wall, with a peristyle and recesses on the interior, as at Marttand.



Near the steps are the remains of a cistern like the smaller one† at Bhaniyar. The building stands on a basement, of which a woodcut is given in the margin.

#### NARAYAN THAL.

This temple stands in a small tank‡ on the right hand side of the road, going from Baramula to Mozufferabad, and about  $2\frac{1}{2}$  miles to the S. W. of the former place. It is situated in a hollow at the foot of the hills, and is buried in trees; and it may, therefore, easily escape the notice of travellers who are not looking out for it. The temple is a square of  $13\frac{1}{4}$  feet, with plain walls. There is only one doorway  $3\frac{5}{8}$  feet high, and 3 feet wide, on the east side, its top being formed

\* See Cunningham, plate No. XV, and plate No. VII, fig. 6.

† See *ante*, p. 97.

‡ See photograph, No. XVII.

by the ends of two stones, whose lower corners are rounded off, forming an arch one foot high. The walls are formed of eight courses, of which two are below the surface of the water.

The roof of the temple is a low pyramid, also formed of eight courses, of which the lowest projects a few inches beyond the face of the walls. The second course from the top of the roof is formed of one stone,  $4\frac{3}{4}$  feet square at the bottom, and  $1\frac{1}{4}$  feet high. Over it are three small stones, forming the uppermost course, of which the centre is pierced with a hole, 6 inches in diameter, apparently made to receive the end of a finial that is wanted to complete the pyramid.

The interior is a square of  $7\frac{1}{4}$  feet, and is  $9\frac{5}{17}$  feet high. The floor was in July more than a foot below the surface of the water. The inside walls are formed of horizontal courses, each consisting of four stones only, one on each side of the building. The course over the doorway is slightly projected and rounded, forming a sort of string course along the walls. Above it are eight courses; the sides of the building diminishing in length as they near the top, and the slope of the walls being straight.

The uppermost course of the interior walls, forming a small square opening, is crowned by a single flat stone.

There are a great many stones lying about the tank, but I could not find the foundation of an enclosing wall,\* and, owing to the rushes and other weeds which abound in the water, I could not ascertain whether the bottom of the tank had been flagged or not. I did not find any part of the pedestal of a *lingam* in the temple.

The tank is fed by a running stream, which comes from a spring in the side of the hill immediately behind.

Some of the stones of the temple walls are  $9\frac{1}{4}$  feet long and 13 inches high.

#### FUTTEHGHUR, KASHMIR.

After crossing the hill at the end of the valley, about two miles from Baramula, on the way to Nowshera, a short distance off the road, to the left, towards Gul-murg, there are the ruins of a grand temple, in a village called (since Runjeet Sing's conquest of the country) Futtolghur. Runjeet had a fort built round the temple,

\* See Cunningham, p. 288, para. 11.



using the stone of its pyramidal roof, and probably of its enclosing quadrangle, for the construction of his walls of defence. The ground plan of the temple is a square of  $46\frac{3}{4}$  feet. There were four porches, each  $27\frac{1}{2}$  feet wide, with a projection  $3\frac{1}{2}$  feet beyond the temple walls. The only door was on the W. N. W. side, the other three porches containing closed doorways, like those at Bhaniyar.\* The doorways had pyramidal pediments, the tympanum being occupied by the trefoil ornament, and were supported on half engaged fluted columns, with capitals decorated with the egg-shaped ornament.† The doorway pediments were surmounted by those of the porches, with noble trefoiled arches occupying the tympanum; the principal pediments being supported on fine square pilasters, and the arches resting, as usual, on half engaged square pillars of their own. The corner pilasters are  $7\frac{1}{2}$  feet thick, and  $4\frac{1}{2}$  inches projected. The capitals of the square pilasters, like the entablature of the exterior walls, were ornamented with small trefoil-headed niches, containing naked human figures standing; and over them was a row of lotus flowers in small square panels. The interior measures 29 feet across, and seems to have been octagonal, the four principal sides measuring each  $18\frac{1}{2}$  feet, and the other four each 9 feet; but the whole building is buried in earth and the debris of the roof nearly up to the top of the doorways, and it is consequently not possible to take all the measurements accurately. Some of the stones (black limestone?) are very large, measuring  $10\frac{7}{8}$  feet in length  $3\frac{5}{8}$  feet in height, and  $3\frac{1}{6}$  feet in thickness. From the exterior face of the porch to the back of the recess formed by the closed doorway is  $8\frac{1}{2}$  feet.

#### TEWAN.

About a mile to the left of the road beyond Bimbaga, at a village called Tewan, near the foot of the hills, there are the ruins of a temple built after the plan of the principal temples beyond Wangat, but of smaller dimensions. It has only one door, viz. to the south; but there are porches, similar to that on the south, on the other three sides, containing closed doorways. The roof is entirely gone, and the walls look as if they would very soon topple over. The basèment is buried. The

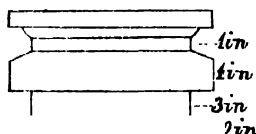
\* See photograph, No. I.

† See Cunningham, plate VIII. fig. 6.

interior is a square of about 11 feet. The temple seems to have stood in a tank, and to have had an enclosing wall. Immediately behind is the steep hill side, covered with fine spreading cedars.

#### TEMPLES AT PATHAN SUGANDHESWARA.\*

The inner chamber of this, the smaller of the two Pathan temples, is, as Cunningham says, "quite plain," except that in the west wall there are four small niches in a line,  $5\frac{1}{2}$  feet from the floor, two with trefoiled heads and two square-headed. To the right of the gateway ruins there is a fragment of a fluted column, one foot in diameter, like those of the Avantiswami peristyle, and, a little further to the front, a fragment of a larger fluted column (having 20 flutes)  $1\frac{3}{4}$  feet in diameter.



22 in

Down each flute there is a flat band, one inch wide, slightly projected. Near the latter fragment there are pieces of two trefoil-headed arches, and the capitals (with parts of the shafts) of two of the colonnade pilasters. There is also, on the same spot, the base (22 inches square) of a small column, cut on three sides only.

#### SANKARA GAURESWARA.

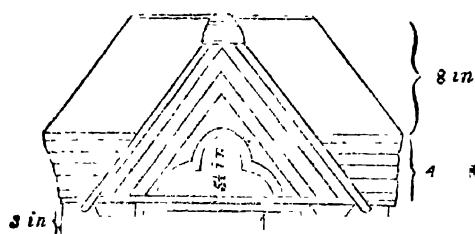
Nearly opposite this, the larger of the two Pathan temples, on the left hand side of the road in a bagh of cherry trees, there is a fragment of a small fluted column† (having 16 flutes), one foot in diameter, similar to that of the Pampur peristyle. The fragment measures about 3 feet in length, and is standing up out of the ground, marking the site of a Mahomedan grave. And in a field to the east of the temple, there is another fragment of the same or a similar pillar. In the village of Pathan, I found the base of a small column like that described near Sugandheswara, and another of a larger column. In and about the village, there are numberless huge stones, squared and otherwise carved, which probably belonged to the enclosure of one or both of the temples. To the east of the entrance porch of the larger temple, at 90 feet distance, there is the foundation of a wall of squared stones, and I thought I could trace the foundation of a gateway.

\* See Cunningham, page 281.

† See Cunningham, page 283.

## KOHIL.

At Kohil, between Awantipore and Payach, there is a miniature



temple, cut out of one stone, standing near a Mahomedan tomb, within an enclosing wall of recent construction.

(See woodcut.) The interior of the temple is a cube of 15 inches, with the centre of the roof hollowed out into a dome; and the walls are 5 inches thick.

The exterior walls are 2 feet long without corner pilasters, and there is only

one entrance. On three sides there are closed doorways, with pediments like that of the entrance. The apex of the doorway pediment is on a level with the top of the lower division of the roof, as at Payach,\* and projects 5 inches beyond the roof at the same level. As at Payach, also, the pediment is unbroken, and contains the trefoil ornament. The doorway pilasters project one inch beyond the face of the wall. The basement of the temple, and the upper division of the roof are missing.

At the same place there are the bases of 3 small columns, whose diameter has been 8 inches. Of their bases, the plinth is 7 inches high and  $11\frac{1}{2}$  inches wide. The upper member also is square, and somewhat like that of the Marttand peristyle columns,† 3 inches high.

## DRUBGAMA.

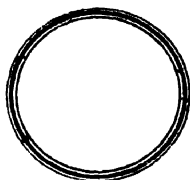
Between Ramoo and Shapuyon, a few yards from the road, on high ground, near Drubgama, is a miniature temple, like that at Kohil, cut out of a single block of stone 2 feet  $8\frac{1}{2}$  inches square, and 4 feet  $5\frac{1}{2}$  inches high.

It has one door to the south, with a horse shoe-shaped arch, covered by a pyramidal pediment, broken into two portions by a return of the

\* See Cunningham, plate XII.

† *Ibid*, plate XV.

side mouldings. The upper portion is occupied by a small trefoil ornament, and the lower one contains a small round ornament, resting on the base, thus :



The width of the porch on the south side is 2 feet. On the north side there is a recess like those of the Pathan temples,\* with a cinquefoiled head, covered by a pyramidal pediment broken into two portions of which the lower one is occupied by a flowered ornament. A larger pediment supported on half engaged pillars surmounts the former one. The east and west walls have porches very slightly projected, with pyramidal pediments resting on the jambs of square-headed doorways. The tympanum of the pediment is occupied by a large trefoil ornament.

The roof of the temple has been formed of two stones, of which the upper one has disappeared, as is the case in the Kohil model.

The temple seems to have stood in a very small tank faced with stone walls. I could not find any trace of a basement. In front of the temple there are stones which I took for the foundation of a small rectangular building.

#### PANDRETHAN.†

The floor of this temple on the 7th of August was  $3\frac{5}{12}$  feet below the surface of the water, and above it there were  $5\frac{1}{2}$  feet of wall. The opening on the south‡ (differing from those on the other three sides) appears to have been made subsequently. Its sides are not splayed like those of the other doorways, and seem not to have been regularly cut, but rudely broken away. In fact, one stone on the west side of

\* See Cunningham, p. 283, para. 1.

† *Idem*, page 283.

‡ *Idem*, p. 287, para. 9.

the opening is not flush with the rest, but projects a couple of inches or so beyond the general level of the face of the wall. I think there had been originally a closed doorway outside on the south, like those at Bhaniyar\* and that the interior of the wall on that side was originally built up and plain.

General Cunningham's drawing of the ceiling of the temple is not quite complete. From the accompanying very accurate sketch made by Mr. R. T. Burney of the Civil Service, (Plate XVIII.), it will be seen that the angles of the square in which the beaded circle is, are occupied by naked human figures, as well as the angles of the other squares. These innermost figures have both arms outstretched, like those at Payach† seeming to hold up the circle. They have drapery about their shoulders, resembling light scarfs. The brackets supporting the cornice were once ornamented, and show marks of great violence having been used to destroy the carving. Each appears to have represented a human head; for on several of them there still remains on both sides what looks like plaited hair. The pediment pilasters project 5 inches beyond those supporting the trefoiled arches. The corner pilasters of the building are 1 foot 10½ inches thick. I found what I took for mortar in all parts of the building.

#### MARTTAND.‡

The middle chamber of the centre edifice is 14 feet by 6½ feet; and the innermost one, the naos of the Greeks, is 18 feet by 13½ feet, having the remains of a cornice, about 18 inches high, in the S. E. corner. I could find no trace of trefoil-headed panels or any other ornament on the outer walls of the quadrangle.

The large pillars at the extremities of the wall (in which the gateway is) outside, have, I think, supported the pediments of cells like those in the front wall at Bhaniyar.§

The leading feature of the entablature of the middle chamber is the cinquefoiled headed arch, resting upon small half engaged hexagonal pillars. See woodcut on next page.

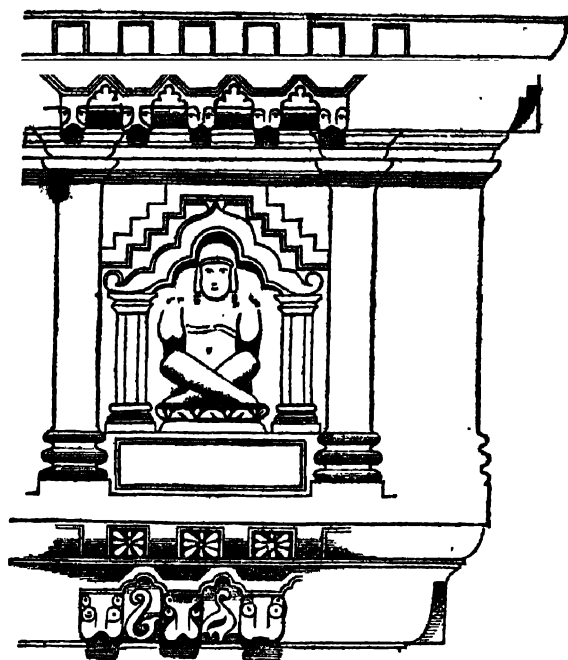
\* See *ante*, p. 92.

† Cunningham, plate No. XII.

‡ Ibid, page 258.

§ Ibid, p. 270, para. 25, and Photograph, No. XXIII.

The soffits of the arch, leading from the arddhamandapa or porch, to the antarala or mid-temple, is highly decorated. (See Cunningham, plate XVI. and woodcut overleaf.)



TAKHT-I-SULIMAN.\*

With all deference to General Cunningham, I should call the ground plan of this temple a *square*† of  $14\frac{1}{2}$  feet, with projections on each side.

The diameter of the interior of the temple is  $15\frac{1}{8}$ . The thickness of the wall on each side of the door is  $5\frac{1}{2}$  feet, and the doorway is projected 2 feet.

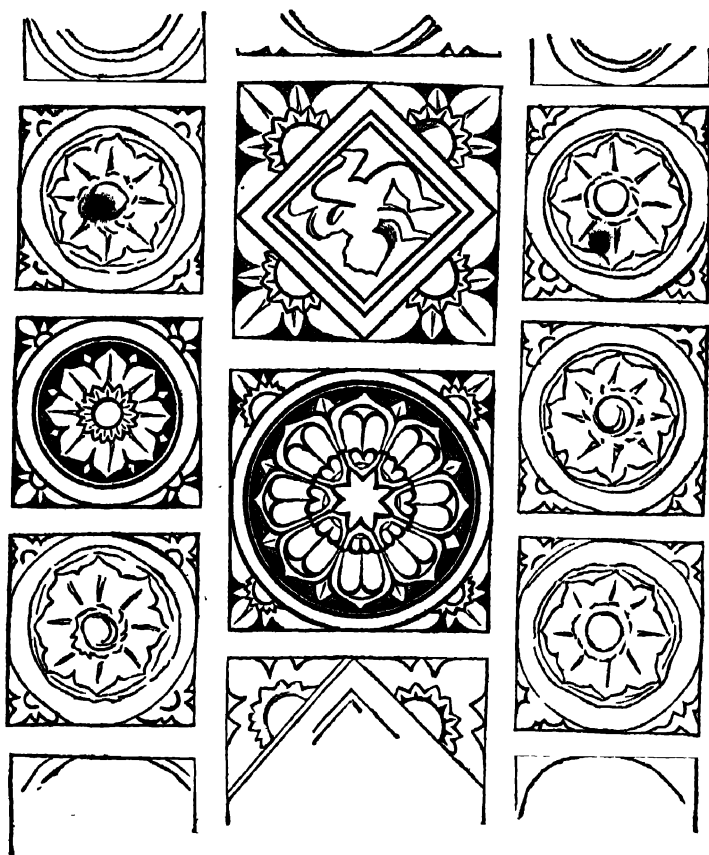
Only one side of the enclosing wall is perfect; and it contains 14 rectangular recesses. The wall on another side is partly standing, and seems to have contained 13 recesses. Those walls each measure 22 feet in length on the inside. The outside of the wall is quite plain.‡

\* Cunningham, page 247.

† Ibid, p. 270, para. 25, and Photograph, No. XXI.

‡ Ibid, p. 250, para. 18.

The basement of the wall is  $2\frac{7}{8}$  feet thick, projecting on the inside one foot beyond the wall itself. The height of the basement is 10 inches.



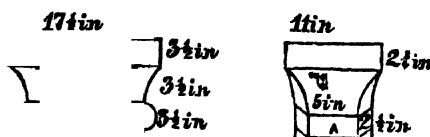
(Soffits of entrance arch of Temple. Marttand.)

The sloping walls, flanking the steps leading from the entrance, are  $2\frac{1}{4}$  feet thick. The surrounding walls and the entrance are in much better preservation than the temple itself. The entrance has a round top (like those of the arched recesses in the rectangular panels\*), whereas the doorway of the temple is narrow and pointed. For these and other reasons, I believe the surrounding wall and the steps to be much more recent in date than the temple.

\* See Cunningham, p. 250, para. 8.

I was assisted in taking the above measurement by W. Elmslie, Esq., M. D.

To the north of the temple, a few feet distant, there is a small rectangular building. Its interior is 11 feet by  $10\frac{5}{8}$  feet, and the



3 1/2 ft.

walls are  $2\frac{7}{8}$  feet thick. The roof is formed of large plain slabs, supported on four horizontal stone beams 15 inches wide, and  $6\frac{1}{2}$  inches high. Each of these beams is formed of two stones. These beams again rest, in the centre, on another stone beam (formed of 2 pieces)  $10\frac{5}{8}$  feet long, 11 inches high and 16 inches wide,

and supported on two stone pillars (of 8 flat faces each) without bases. Including the capitals, the pillars are 4 feet  $10\frac{1}{2}$  inches high and  $23\frac{1}{2}$  inches thick. (See woodcut.) The capitals are not alike.

There is one entrance to the east, as in the temple close by. It is round headed, with plain mouldings parallel to the sides and top. The walls outside and inside are plain. The exterior of the roof is gone.

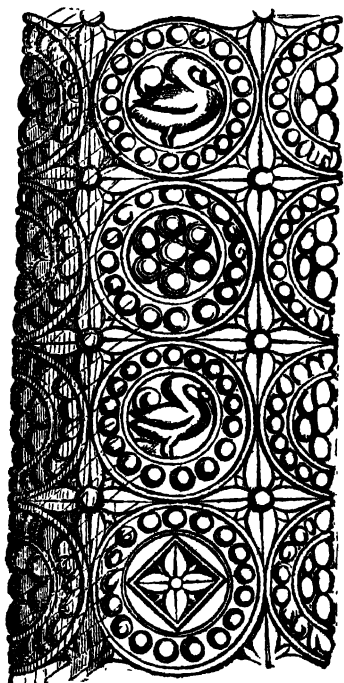
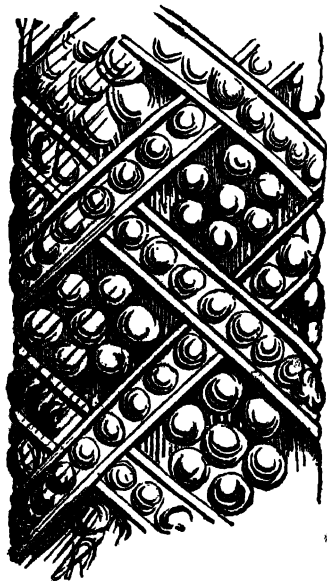
#### AVANTISWAMI.\*

Though the Dewan at Srinagar readily consented to my opening up the ruins of Avantiswami, I experienced great difficulty in obtaining bildars and coolies for the work. For some weeks I could not get any at all, and most of the work was done by very old men and children.

I excavated the whole of the peristyle on the south side of the quadrangle and the part of it between the S. W. corner and the gateway. At first I hoped that the displacement of the entablature over the colonnade was only local; but, on continuing the excavation,

\* See General Cunningham's Essay, p. 276, and the Bishop's letter to the Asiatic Society, 1865.





I found that the whole of the entablature on the south side had been thrown down before the silting up of the quadrangle. Notwithstanding this circumstance, the pedimental pilasters of the recesses have scarcely been injured at all. This is specially remarkable in the case of one pair of pilasters, which are ornamented with figures representing Siva or some other divinity. The woodcuts on page 122, from a drawing by Mr. H. Wilson of the Civil Service, give a very faithful representation of four of these pilasters.

#### KUNAMOH, &c.

At Kunamoh and Kroo, beyond Pampur, to the left of the Islamabad road, there have been temples in the middle of small tanks, which (latter) still remain. At Tapur also, between Pathan and Baramula, there are the foundations, if not the entire basements, of two fine temples; and near Woossun, on the right bank of the Sind, there are likewise extensive ruins of similar buildings.

About one mile from Baramula, on the left bank of the Jhelum, are the foundations of a wall 90 yards square, enclosing a small *tope*. This is probably the ancient Jayendra Vihar. Near the wall there are the foundations of a large village or city. Stones of all shapes are strewn over the ground to the extent of some acres. In one place there is a heap of huge blocks, which are evidently the debris of a temple long ago overturned. There is also a small mound resembling a Buddhist *tope*, also covered with loose stones. Near its top is a very large *lingam*. A few hundred yards from this mound, in an orchard, there is another and larger *lingam*, measuring 17 feet in circumference near the base, and 9 feet in height.

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*Remarks on Barbier de Meynard's edition of Ibn Khordádbeh and on the Land-tax of the empire of the Khalyfs.—By Dr. A. SPRENGER.*

[Received 23rd February, 1866.]

*Le livre des routes et des provinces d' Ibn Khordádbeh, texte arabe publié, traduit, et annoté par C. Barbier de Meynard. Paris, 1865.*

Monsieur Barbier de Meynard is known to us as the author of the *Dictionnaire Géographique de la Perse*, and as the editor and translator of the *Travels of Ibn Baṭūṭā* and of the *Golden Meadows* (or more correctly, as Gildemeister explains this book title, "the gold washings) of Masúdy. To these important publications he has lately added that of *Ibn Khordádbeh*, and at present he is engaged with *Moqaddasy*. As soon as he has completed this work, we may say that he has done more for oriental geography, than all Arabists past and living together. Barbier de Meynard has visited the East, and he is an 'Alamdyda and a man of vast erudition. His way of working differs essentially from that of his confrères of the old rotten school. He gives us good texts and close yet elegant translations, and does not waste his time in puerile notes, replete with philological subtleties and nonsensical explanations, in which men whose ideas do not extend beyond the narrow limits of the school, delight so much.

The most ancient MS. of the geography of *Ibn Khordádbeh* is that of Oxford, which has hitherto been considered as unique. To the zeal of Monsieur Barbier de Meynard and to his knowledge of the East we owe the discovery of another copy, which was found at Constantinople. Notwithstanding this important discovery, it was an extremely difficult task to establish a good text of *Ibn Khordádbeh*. I do not maintain Barbier de Meynard has succeeded in every instance to fix the correct reading, but I assert, without fear of contradiction, that no Orientalist could have done more for amending the text than he, for no man has a better knowledge of Eastern geography. The editor suffered under one great disadvantage: he could not consult the MS. of Oxford, whilst the work went through the press, and the transcript which he made use of was not taken by himself. The Oxonians are as jealous of their literary treasures as an eastern prince of the hundreds of ladies in his harem, and as they have no particular

predelection for Eastern lore (they have in fact better things to do), they derive about as much advantage from them. I copied the Oxford MS. for my own use, and in some instances I prefer my own reading. Baron de Slane published in the "*Journal Asiatique*" an account of Qodáma's work on the *Kharáj*, a book which I shall frequently quote in this paper. I might probably have avoided many mistakes arising from the incorrectness of my extracts from Qodáma, if I had had the good fortune to consult the Baron's remarks, but unfortunately I do not possess the *Journal*.

Ibn Khordádbeh wrote about A. H. 250 (A. D. 864.) His geography is small, and fills only 127 pages octavo, but it is of immense importance, inasmuch as it consists almost exclusively of official documents, and contains the caravan and dawk stations of the whole empire of the Khalyfs, and the amount of revenue of every district. I have inserted his itineraries in my "*Post-und Reiserouten des Orients*," and some of them will be taken from that compilation and embodied, as Mr. Hyde Clark writes to me, in Murray's *Guide for the East*. I therefore give here a short account of the revenue of the Khalyfs, extracted from Ibn Khordádbeh.

I must premise a few remarks on the weights and measures of the Arabs, making use of the researches which I made on the weights in my *Leben und Lehre des Mohammad*, Vol. III. p. 141, and in an essay on the *Wegmasse und Gradmessung der Aegypter, Griechen und Araber*, which is not yet published.

The standard of the Musulman weights is the Aureus of Constantine: 72 Aurei = 1 Roman pound = 5256 English grains Troy according to Gibbon, = 6165 grains de Paris according to Böckh. The Aureus, considered as the unit of weight, is called *Mithqál*, and may be taken = 4.6 Grammes or somewhat more. This weight of pure gold is according to the present value of the precious metals = 15.97 Francs. The Musulman Dirham is in weight =  $\frac{7}{8}$  Mithqál, and if consisting of pure silver, its value is = 72 Centimes. 1 Baghdádian rosl pound (the one mentioned in law-books) = 128 $\frac{1}{2}$  Dirhams = 90 Mithqáls = 1 $\frac{1}{2}$  Roman pounds = 409.536 Grammes = 1.1 pound Troy (nearly).

All other Musulman weights we must reduce, if possible, to the *Mithqál* (= *Dynár* = Aureus); for there existed various systems:

the grain and the weights, calculated by the number of grains which they contain, had, in some parts of the empire, and at one time, a greater or lesser value than in other parts and at other periods. There is a grain of which 72 make a Mithqál, there is a grain (شعيرة) of which 100 make a Mithqál, one of which 96 make a Mithqál, one of which 68½ make a Mithqál, and one of which 60 make a Mithqál, but this grain is called *Habba* and not *Sháyra*. The fact seems to be that the Persians, and after them the Mohomedans, found that the Roman Aurei are more equal in weight than any other coin, and for this reason they used it as standard, calculating the value of their own weight by Aurei. In some cases, slight alterations in the value of their own weights seem to have been made in order to adapt them better to this foreign standard. The apothecaries' weight, as we learn from Avicenna, was Greek, but not without some alteration.

According to the Dictionary of Techn. Terms, p. 176, there existed in the early ages of the Islam the same system as was in later times preserved at Samarcand. It may be expressed as follows :

Mithqál.	Daneq.	Tassúj.	Habba.	Grain (Sháyra.)
	6	24	48	96
	1	4	8	16
		1	2	4
			1	2
				1

Another system or Çanja we find in the *Qámús* under *Makkúk*, it may be expressed as follows :

Mithqál.	Dirhem.	Dáneq.	Qyrát.	Tassúj.	Habba (grain.)
1	1½	8½	17½	34½	68½
	1	6	12	24	48
		1	2	4	8
			1	2	4
				1	2
					1

This system is in the *Qámús* continued beyond the Mithqál, as follows :

Makkúk.	Kaylaja.	Maná.	Ro/l (pound.)	Ounce.	Istár.	Mithqál.
1	3	5½	11½	135	225	1012½
	1	1⅞	3½	45	75	337½
		1	2	24	40	180
			1	12	20	90
				1	1⅓	7½
					1	4½
						1

In this table three systems of weight are brought together: the Roman monetary, the Greek apothecary, and the Persian heavy weights. I ought to observe that the grain of شعيرة in Herat was, even in later times, so small, that 100 such grains were required to make up a Mithqál. In some places 3 *Habba* made a *Tassúj*.

I now insert an abstract of the calculations of 'Alyy *Hasany*, who wrote at Murshidábád in A. H. 1164, transcribed from his autograph.

1 grain of barley = 2 grains of rye = 4 grains of mustard.

1 Másha = 8 Raty = 36 grains of barley = 72 grains of rye.

1 Tola = 12 Mashas = 96 Raties = 9 Dirhams of the law-books = 6⅓ Mithqáls.

A Paysa (copper coin) of 'Alamgyr has exactly the weight of one Tola, but the Paysa of Bengal, current in 1164, weighs 10½ Raties.

1 Sér of 'Alamgyr = 60 Tolas.

1 Man of 'Alamgyr = 40 Sérs.

1 Bengal Rupee = 10 Mashas and 2 Raties.

1 Delhi Rupee = 10 Mashas.

1 Ashrafy = 9 Mashas and 6 Raties.

1 Qyrát = ⅔ of a Mithqál of the traditions = 3⅓ grains of barley = ⅔ Raty and ⅓ grain.

1 Dáneq = ⅓ Dirhem = 8 grains = 1 Raty and 3½ grains.

1 Dirhem = 6 Dáneq = 48 grains = ⅞ Mithqál = 10⅓ Raties.

1 Mithqál = 68⅔ grains = 20 Qyrát = 1⅓ Dirhams = 14 Raties and 1¼ grains.

1 Ro/l of 'Irâq = 130 Dirhems = 91 Mithqáls = 6240 grains = ⅓ Ro/l of Madyna = 1380⅓ Raties.

1 Ro/l of Makka = 2 Irâqy Rotls = 182 Mithqáls = 260 Dirhems = 12480 grains = 277⅓ Raties.

1 Modd =  $292\frac{1}{2}$  Dirhems =  $204\frac{1}{2}$  Mithqáls = 14040 grains =  $2\frac{1}{2}$  Iráqy or Baghdadian Róls =  $1\frac{1}{2}$  Rótl of Madyna = 3120 Raties.

According to some, one Modd =  $257\frac{1}{2}$  Dirhems.

1 Çá' = 4 Modd = 1170 Dirhems = 819 Mithqáls = 56108 grains = 12480 Ráties.

1 Korr = 1200 'Iráqy Róls =  $533\frac{1}{2}$  Modd =  $133\frac{1}{2}$  Çá' = 156000 Dirhems = 109201 Mithqáls = 7488000 grains =  $2070\frac{1}{16}$  Sérs.

1 Wisq = 60 Çá'.

The values of Arabic weights reduced to Indian weights in this table, is certainly wrong. It is incomprehensible, how a man in his senses could believe that one Paysa is as heavy as  $6\frac{3}{16}$  Dynárs or 9 Dirhems. This error seems to arise from the supposition that an Indian grain is exactly equal to the largest Arabic grain, of which  $68\frac{4}{7}$  are sufficient to make a Mithqál, and  $4937\frac{1}{2}$  one Roman pound. Some other data of this table are probably equally incorrect, yet it contains some information which may be useful.

The value of cubic measures for grain is expressed by the Arabs in the weight of the quantity of barley which they contain. At this moment I have no book in which they are explained, and I must refer to dictionaries. Their explanations unfortunately do not square, because the Çá' and the Maná have different values in different authors. According to Abú Hanyfa 1 Çá' of Barley = 8 Róls; according to Sháfi'y =  $5\frac{1}{2}$  Rótl; according to the Shy'ites = 9 Róls; and according to Kolyug = 1170 Dirhams =  $9\frac{1}{16}$  Róls. On the Maná Meninsky says: apud Arabes Hispanos duas libras, apud Asiatas 260 Drachmas appendebat. Maná ægyptiaca, pondus sedecim uncia-rum; mana græca, pondus 20 uncia-rum; maná alexandrina pondus 30 uncia-rum. (Casiri Bib. ar-hisp.)

The measures of importance for our present purpose are the Qafyz, the Korr and the Jaryb.

1 Qafyz = 8 Makkúk (which is not the name of a weight, but of a cubic measure). Consequently 1 Qafyz = 8100 Mithqáls = 90 Róls. According to Golius, 1 Qafyz = 12 Çá's; or if we take the Çá', with Abú Hanyfa, to 8 Róls = 96 Róls.

We find in the Qámús also the following explanation of the Qafyz, نیم و بیہ و بیہ بست و دور یا بیہ و چهار مد بعد النبی باشد

"1 Makkúk =  $\frac{1}{2}$  Wayba; and 1 Wayba = 22 or 24 Modds, that is to say Modds of the prophet." And under Modd he says: "According to the people of 'Irâq, the Modd is equal to two Ro/ls, and according to the people of Hijáz to  $1\frac{1}{2}$  Ro/; " and lower down he states the value of the Modd of the prophet at one-fourth of a Çá'. Now if we take the Çá', with Abú Han fa, at 8 Ro/ls, the Modd has as in 'Irâq 2 Ro/ls, and if we take the Çá', with Sháfiy, at  $5\frac{1}{2}$  Ro/ls, the Modd holds as in Hijáz  $5\frac{1}{2} : 4 = 1\frac{1}{2}$  Ro/ls; and I therefore suspect that in one place two Ro/ls, in another place  $1\frac{1}{2}$  Ro/ls, were called Modd of the prophet. If we take the Modd at two Ro/ls, we have for the value of the Qafyz  $2\frac{1}{2} \times 2 = 24$  Ro/ls." It is impossible to reconcile this statement with the preceding one.

There are in the Qámús two other definitions of the Makkúk, eight of which make one Qafyz. According to the one, a Makkúk weighs from six to eight ounces, that is to say, half a Ro/ or  $\frac{3}{4}$  Ro/ls. It is impossible that this be the value of the Makkúk in question. According to the other statement, 1 Makkúk =  $1\frac{1}{2}$  Çá' or 12 Ro/ls, if we give to the Çá the value of 8 Ro/ls.

From a passage of Qodáma, it appears that any small measure of corn was called Makkúk-bushel, and that the Makkúk was different in different countries. In the definition of the value of the Qafyz, I think the large Makkúk is meant, and I therefore assume 1 Qafyz = 96 Ro/ls or Arabian pounds.

The Korr. At this moment I have no access to the Arabic text of the Qámús, but to judge from the Persian translation and from the extracts found in Golius and Freytag, it seems that the Qámús contradicts itself. Freytag, without stating the authority, says, 1 Korr = 12 Wasq (camel-loads) and every Wasq = 60 Çá'. The value of the Wasq or Camel load depends upon the value of the Çá'; it may therefore be 320 or 480 or 540 Ro/ls. A camel may carry rather more than two hundred weights on either side, and I therefore take 480 to be nearest to truth. A Korr would therefore be equal to 5760 Ro/ls.

According to the Persian translation of the Qámús, 1 Korr = 6 ass-loads, and one ass-load = 60 Qafyz. Now a donkey carries about half as much as a camel or less, but according to the above statement, 6 ass-loads are = 12 camel-loads. Moreover 60 Qafyz



weigh 5760 Rotls, a burden which no beast is able to carry. It is therefore clear that one Korr contains 60 Qafyz or 12 camel loads of 480 Rotls each. Another statement of the Qámús says, 1 Korr = 40 Irdabb. The Korr is an 'Iráqian (Babylonian), and the Irdabb an Egyptian measure. One Irdabb = 24 Čá' or 6 Wayba. If the Wayba is taken at 24 Modd, and the Modd at  $1\frac{1}{2}$  Rotls, these two valuations agree; for  $24 \times 8 = 24 \times 6 \times 1\frac{1}{2} = 192 \text{ Rotls} = 1 \text{ Irdabb}$ . Consequently the weight of a Korr = 7680 Rotls. We must bear in mind that this is a reduction of the largest 'Iráqian measure of grain to Egyptian measure, and it is very likely that the value of the Irdabb is stated in Egyptian Rotls, the weight of which I do not know; we can therefore make no use of this definition of the Korr. Golius gives the value of the Korr, on the authority of the Destúr alloghat, at 7100 Rotls. This approaches to the result which we have just found; the question is only, what kind of Rotl is meant, and by what means did the author arrive at this result.

The Jaryb is defined in the Qámús as follows: 1 Jaryb = 4 Qafyz; 1 Qafyz = 8 Makkúk; 1 Makkúk = 3 Kaylaja; and 1 Kaylaja =  $1\frac{1}{2}$  Maná. We see that this statement is a continuation of the one given above in a tabular form; and it seems to be an abstract of a systematical comparison of 'Iráqian weights and measures; and we therefore keep to it. Consequently 15 Jaryb = 1 Korr. I now continue the above table taken from the Qámús.

Korr.	Jaryb.	Qafyz.	Makkúk.
1	15	60	480
	1	4	32
		1	8
			1

Consequently one Korr is equal in weight to 486080 Mithqáls or 6750 Roman pounds. I ought to observe that Abú Yúsuf mentions a Jaryb of 7 Qafyz, and that he as well as Ibn Sád say that a man may live on a Jaryb of grain one month. I should think that fifty or sixty Roman pounds would be sufficient for the support of a man; and as the Jaryb of 7 Qafyz contains  $787\frac{1}{2}$  Roman pounds, I am at a loss, how to explain this statement.

The linear measures of the Arabs are probably not essentially different from those of the Greeks. 1 Háschimite or Royal cubit =

2 Greek feet = 32 Arabic inches = 273.32 lignes de Paris. The Arabs have besides a cubit of 24 inches (the ذراع اليد), and one (the black cubit) of 27 inches; the proportion of the former to the Háschimite cubit is as 3 : 4.

Regarding the square measures I am in the dark. According to an extract from the Akhwánalṣafá, inserted by Dieterici in the Zeitsch. d. D.M.G., 1 Jaryb of 10 Qafyz = 3600 Háschimite square cubits. I suspect that there must have existed a Jaryb of  $\frac{1}{2}$  of this value or = 6300 Háschimite square cubits = 22700 □ Pieds de Paris. This is, however, a question which ought to be further investigated by those who have better sources.

The history of the finances of the East, as handed down by the Arabs, begins with the Súsánians, but the two accounts which we have of their revenue, are extremely difficult to be reconciled with each other. Ibn Khordádbek, p. 42, says : *وكان جيبى الكسرى ابرويز من خراج مملكته في سنة ثمان عشرة من ملكه اربعة آلاف الف مثقال وعشرون الف الف مثقال يكون ذلك بوزن الدرهم سبع مائة الف الف وخمسة وتسعين الف الف ثم بلغت جباية مملكته ستمائة الف الف مثقال*

Qodáma, in my incorrect extracts from the corrupted text, says : *يقال ان كسرى ابرويز احصى ناحية المملكة فى سنة ثمان عشرة من ملكه و انما كان فى يده ما ذكرناه و سمينا اعماله من السواد و ساير النواحي دون اعمال المغرب لان حده كان الى هيت و كان ما سميناه من المغرب فى ايدي الروم من العين سبعمائة الف و عشرين الف مثقال يكون من الورق ستمائة الف الف درهم*

There is no doubt that both accounts refer to the same fact, yet there is only one figure "600 millions of Dirhams" in both identical. This figure appears to me to express the amount of revenue in Musulman Dirhams. Ten Musulman Dirhams are *in weight* equal to 7 Mithqáls, consequently 600 millions Dirhams = 420 millions Mithqáls or 5,833,333 $\frac{1}{3}$  Roman pounds. The first figure of Ibn Khordádbek is consequently to be read 420 millions instead of 24 millions. At the time of Qodáma 15 Dirhams (silver) had the value of one Dynár or Mithqál (of gold); consequently gold was only 9 $\frac{1}{2}$  times more valuable than silver. It seems, however, that gold had at times a higher rate, and that a pound of gold was equal in value to 10 pounds of silver. 420 Mithqáls of silver were therefore equal to 42 Mithqáls or Dynárs of gold in value. I consequently propose to read in Qodáma 42 mil-

lions instead of 720,000 Dynárs. The only difficulty is caused by the figure of Ibn Khordádbēh, 795 millions Mithqáls (of silver). It is clear that the author wants to say, that after the eighteenth year of Parwyz the revenue increased, and as 795 is a higher sum than 600, I take that this is the highest figure to which the revenue rose during his reign. After these observations I change the figures, and translate the passage of Ibn Khordádbēh as follows: "The Kheráj of the whole kingdom which was gathered for the Chosroes Parwyz in the year 18 of his reign amounts to 420 millions Mithqáls (of silver, read *اربعمائة الف* *الف و عشرون الف*). This makes, reduced to the weight of Musulman Dirhems, 600 millions of Dirhems. Subsequently the revenue of his kingdom rose to 795 Mithqáls."

The passage of Qodáma I translate: "It is asserted that Chosroes Parwyz counted in the year 18 of his reign the revenue (for *جباية* read *ناحية*) of his kingdom. He possessed all the provinces which I have enumerated, the Sawád and the other districts, with the exception of the western part of the Musulman empire; for the frontier of his kingdom was Hyt, and the country west of it belonged to the Greeks. He found that the revenue amounted to 42 millions Mithqáls (of gold), this makes 600 millions of Musulman Dirhams (of silver)."

The Musulman Dirham was not known to the Persians, they counted the revenue, as it seems, in Dirhams which had exactly the weight of a Mithqál or of an aureus of Constantine of which 72 made a Roman pound, and for this reason, in the original account which was used both by Ibn Khordádbēh and Qodáma, the sum was stated in Mithqáls. The money was weighed, and of course, if it contained alloy, deduction was made. We are therefore able to calculate the income with great accuracy, it is equal to 172,800,000 Rupees in value. If we reduce it to English money, we must bear in mind that the proportion of the value of gold to that of silver was not the same as in our days. In the Greek empire, it was fixed by law as  $14\frac{2}{3} : 1$ , and gold was the standard. In the Persian empire, the proportion was probably as 10 : 1, and I am inclined to believe that in the document which Qodáma and Ibn Khordádbēh used, the amount of the revenue was stated both in gold and in silver. I have already observed that at Qodáma's time the proportion was  $9\frac{1}{2} : 1$ , and I have shown (das

Leben des Moh., Vol. 3, p. 136) that in Mahommedan law, it is as 8½ : 1 and even as 7 : 1.

In Persia silver was the standard, in the Byzantian empire gold. The Musulmans made no change : in the provinces which had belonged to the kingdom of the Sasanians, silver remained the standard, and in Syria, Egypt and other provinces which they took from the Greeks, gold continued as the standard. In Makka and Madyna, silver became the standard as early as Omar I., but in southern Arabia the revenue was calculated by Dynárs (Aurei.) The great difference of the value which gold had at Constantinople under Constantine, and which it had in the Sasanian and later in the Arabic empire, throws an unexpected light upon the relative prosperity of the two countries. The fact requires no comment for those who know the elements of Political Economy.

Ibn Khordádbek begins his geography with a description of the Sawád—Babylonia. Immediately after the Musulmans had conquered that country, 'Omar I. sent 'Othmán b. Honayf to survey it for the sake of assessment. It appears that he measured the cultivated land of every district, and also for the sake of control the whole country *en bloc*. He found that it is from Hadytha in the north to 'Abbadán in the south 125 farsangs long, and from Holwán in the east to 'Odzoib in the west 85 farsangs wide. The whole surface of cultivated and waste land (عاصرو غامر) amounts therefore to 10625 □ farsangs or 136607143 Jaryb. Ibn Khordádbek (MS. of Oxford) and Qodama calculate the surface in round figures at 136 millions of Jaryb.

Under the Sásanian king, Qobád b. Fyróz, the revenue of the Sawád amounted to 150 millions Mithqáls (of silver or Persian Dirhams) = more than 2 millions Roman pounds of silver = more than 214 millions of Musulman Dirhams. After the Musulman conquest, 'Omar I. derived a revenue of 120 millions Dirhams from it. This sum is named by Ibn Khordádbek and Qodáma. Ibn Sád includes the revenue of Jebel and mentions a higher sum, but as two figures are wanting in his text, we cannot make out what he means, his words are مائة ألف ألف وعشرون ألف ألف و الف (الف) والواق (آلاف) درهم ونصف

I shall speak on the assessment of 'Omar lower down. Here I will only observe that the 120 millions are made up by the land-tax and

capitation. The latter may have amounted to 7 millions the male population of full age consisted of 500,000 souls, and the poorer classes had to pay 12, the middling classes 24, and the rich 48 Dirhams; supposing one in a thousand paid the highest, and one in a hundred the middling rate of capitation, this tax yielded 7,000,000 Dirhems and the land tax 113,000,000 Dirhems.

We see that the total income which 'Omar I. derived from the land of the Sawád is little more than half of that which it yielded under Qobád. It is not unlikely that 'Omar assessed it somewhat lighter, but the main cause of the diminution of revenue was the decay of the country. Babylonia has some resemblance with Holland, and the Sunderbunds, being the Delta of the Euphrates and Tigris; and it appears that great efforts have been made in former times to drain it and to protect it from inundation by dykes, and in measure as they were neglected, the land was converted into swamps. We find *paludes* in the map of Ptolemy, but they seem to have been of no great extent. The Tigris carries much silt, which is partly deposited in its bed, where it slackens its course, and consequently in the progress of time the bed became higher and threatened to inundate the country. To prevent this calamity, it was dammed in below Bagra, and the course was regulated: it was made straight, so that the water might carry off the deposit. During the reign of Qobád (probably after the time at which he derived so high a revenue from the Sawád) the dyke was broken through below Kaskar, and the neighbouring country was inundated, but the government took no notice. Anushyrván had the dykes restored and much of the land was recovered. In the year 6 of the Hijra (A. D. 628) both the Euphrates and the Tigris swoll amazingly, and destroyed many of the dykes. King Parwyz showed great energy, and it is asserted that in one day no less than 40 gaps were filled up; yet though he granted great sums from the public treasury for the repairs, he was unable to remedy the evil. A few years later, the Arabs waged war against the Persians. The dykes were in consequence completely neglected, and the swamps gained in extent. The Musulmans, after they had conquered the country, seem not to have paid any attention to the matter, and the Dihqáns—heads of districts—were unable to repair the dykes. Mo'awiya I. sent his client 'Abd Allah b. Darráj to Babylonia as collector, and he seems

to have been the first Mahommedan who recovered some land. Much greater efforts were made by the Nabathean *Hassán*, who was collector under the reigns of *Walýd* and *Hischám b. Abd al-Malik*, and cut two canals to carry off the water. In A. H. 75, *Hajjáj* was appointed governor of *Babylonia*. He represented to *Walýd II.*, that the drainage of the country would cost three millions of *Dirhams*. The *Khalyf* thought he could spend the money more pleasantly on eunuchs and singers, and refused to grant so large a sum. *Moslíma b. 'Abd al-Málik*, a relation of the *Khalyf*, proposed to him to drain part of the swamps, under the condition that he should draw the revenue of the recovered land. The *Khalyf* accepted the offer, and *Moslíma* cut the two canals called *Saylaya*, and raised dykes. He succeeded in recovering a great extent of land, and the peasantry flocked to him to cultivate it. His family continued to derive the revenue from it up to the time of the overthrow of the *Omayyide* Dynasty. The '*Abbáside* *Khalyf* granted it to one of his relations, *Dáwud b. 'Alyy b. 'Abd Allah b. 'Abbás*. His heirs remained for some time in possession of it, but eventually it was considered as one of the crown-lands الضياع السلطانية

In A. H. 75 *Hajjáj* was appointed governor of *Babylonia*, and he ruled 20 years over that country. *Ibn Khordádbeh* says of the financial condition of the country during his sway: "The revenue gathered by *Hajjáj* did not amount to more than 18 millions *Dirhams*, and there was consequently a diminution of one hundred (and two) millions. This was owing to his burning down villages, and to his oppression. Moreover he was obliged to give advances to the cultivators to the amount of two millions, so that only 16 millions reached the public treasury." It seems that the peasantry fled, for under the just '*Omar II.* who ruled in A.H. 99, the revenue of the *Sawád* suddenly rose to 124 millions.

It is a very unexpected fact that at the time of *Ibn Khordádbeh* not only the limits, but also the names of the districts were in the official language precisely the same which had been in use among the *Sásánians*, nay some of them seem to be even more ancient than the *Sásánians*; for we neither find a district called *Baghdád*, nor one called *Madáyin* (*Ctesiphon*). The province in which these two cities lie, is called *Shád-Hormuz* and the district *Kalwadzá*, from an ancient town half way between *Baghdád* and *Madáyin*.

The Sawád is divided into 12 Kúr, provinces, and originally it contained 60 *Tasásyj*, districts, but at the time of Ibn Khordádbeh only forty-eight. The whole province of *Holwán*, containing five districts, was added to *Jebel*. We have seen that Ibn Sád includes in reference to the time of 'Omar I. the revenue of *Jebel* in that of the Sawád. He probably means that of *Holwán* only, which at the time of 'Omar and of the Omayyids may have belonged to the Sawád. The province of the *Tigris*, containing 4 districts, was given to the Government of *Bağra*; and it is very likely that the crops which it had to supply to the State, were destined for the support of the troops stationed there. This, however, can only apply to the time of the 'Abbásides, for in former days they received their supply from *Máh-Bağra* in Persia, which under the Abbásides was placed under another Government. One whole district had become a swamp and disappeared altogether. Two districts (one of them is lower *Behqobád*) had been converted into crown lands after the system of *Khorásán*. In this manner, the Sawád was shortened by 12 districts and reduced to forty-eight.

I insert here a detailed account of the revenue of the Sawád, according to *Qodáma*, and also (distinguished by asterisks) one according to Ibn Khordádbeh. In a very few instances I deviate from *Barbier de Meynard's* text, and follow my own copy of the MS. of Oxford. *Qodáma* says of his account, it contains the income as it stands at present. I take the mean since the year 184, this being the first year of which documents are found in the public offices at *Baghdád*; for the earlier records were destroyed by fire during the disturbances which took place in 183 under *Amyn*, known under the name of *Ibn Zobayda*.

*Western side of the Sawád watered* No. of No. of

*by the Tigris and Euphrates.* Villages. Barns. Wheat. Barley. Dirhams.

Anbár and Nahr-Ma'rúf,	...	—	—	118,000(?)	6,400	4,000	0,000
*Anbár (alone),	...	5	250	2,300	1,400	150,000	
Qotrobbol,	...	—	—	2,000	1,000	3,000,000	
*Ditto,	...	10	220	2,000	1,000	300 (sic!)	
Maskan,	...	—	—	3,000	1,000	150,000	
*Ditto,	...	6	105	3,000	1,000	300,000	
Bádúryya,	...	—	—	3,500	1,000	1,000,000	

				No. of Villages.	No. of Barns.	Wheat.	Barley.	Dirhams.
*Bádúryya,	...	...	...	14	420	3,500	1,000	1,000,000
Nahr-Shyr,	...	...	...	—	—	1,700	1,700	150,000
*Ditto,	...	...	...	10	240	1,700	1,700	5,000(sic)
Rúmayán,	...	...	...	—	—	3,300	3,300	150,000
*Ditto,	...	...	...	10	220	3,300	3,050	350,000
Kúthá,	...	...	...	—	—	3,000	2,000	350,000
*Ditto,	...	...	...	9	220	3,000	2,000	350,000
Darqyt,	...	...	...	—	—	2,000	2,000	200,000
*Ditto,	...	...	...	9	125	2,000	2,000	200,000
Jubara,	...	...	...	—	—	1,500	6,000	1,500,000
*Ditto,	...	...	...	10	227	1,700	6,000	150,000
The three Zás,	...	...	...	—	—	1,400	7,200	250,000
*Ditto,	...	...	...	12	244	1,400	7,200	250,000
Babel and Khaternyya,	...	...	...	—	—	3,000	5,000	350,000
*Ditto,	...	...	...	16	378	—	—	350,000
Upper-Falúja,	...	...	...	—	—	500	500	70,000
*Ditto,	...	...	...	15	240	1,500	500	70,000
Lower-Falúja,	...	...	...	—	—	2,000	30,000	280,000
*Ditto,	...	...	...	6	72	1,000	3,000	280,000
The two Canals,	...	...	...	—	—	300	400	45,000
*Ditto,	...	...	...	3	81	300	400	45,000
'Ayn-Tamr,	...	...	...	—	—	300	400	45,000
*Ditto,	...	...	...	3	14	300	400	51,000
Jenna and Bedát,	...	...	...	—	—	1,500	1,600	150,000
*Ditto,	...	...	...	8	71	1,200	1,600	150,000
Súra and Barbysiya,	...	...	...	—	—	1,500	4,500	250,000
*Ditto,	...	...	...	10	265	700	2,400	100,000
(rice)								
Banyama and King's Canal,	...	...	...	—	—	3,500	4,000	112,000
*Ditto,	...	...	...	10	664	1,500	4,500	250,000
Upper and lower Bús,	...	...	...	—	—	500	5,500	150,000
*Tithes of lands belonging to the church or charities and from lands called Sanyn situated in various districts,	...	...	...	—	—	500	5,500	250,000
Forát-Badaqla,	...	...	...	—	—	2,000	2,500	62,000



			No. of Villages.	No. of Barns.	Wheat.	Barley.	Dirhams.
Forát-Badaqla,	...	...	10	271	2,000	2,500*	900,000
Silhayn, ...	...	...	—	—	1,000	1,500	140,000
*Ditto, ...	...	...	—	34	1,000	1,500	140,000
Rúmistán and Hormuzjerd, ...	...	...	—	—	500	500	20,000
*Ditto, ...	...	...	—	—	500	500	10,000
Nister, ...	...	...	—	—	2,200	2,000	300,000
*Ditto, ...	...	...	7	163	1,250	2,000*	300,000
Ighár of Yaqtyn, ...	...	...	—	—	2,200	2,000	204,800
*Ditto, ...	...	...	—	—	—	—	200,840

*At the junction of the two rivers.*

The provinces of Kesker : it is said  
the revenue formerly amounted

to 90000 Dirhams, ... — — 30,000 20,000 270,000

\*Kesker and canal of Çillah, Riq-  
qat and Reyán, the Kheráj and

all other taxes yield, ... — — 3,000 20,000 70,000,000  
(and rice)

Nahr Çilla, ... — — 1,000 3,121 59,000

*Eastern side of the Sawád.*

Buzurg-Sábúr, ... — — 2,500 2,200 300,000

\*Ditto, ... 9 260 2,500 2,200 300,000

The two Rádán, ... — — 4,800 4,800 120,000

\*Ditto, ... 19 362 4,800 1,800 120,000

Canal of Búq, ... — — 200 1,000 100,000

\*Ditto, ... — — 200 1,000 100,000

Kalwádzá and Canal of Byn, ... — — 1,600 1,500 330,000

\*Ditto, ... 3 34 1,600 1,500 330,000

Jádzer, old town المدينة العتيقة — — 1,000 1,500 240,000

\*Ditto, ... 9 116 1,000 1,400 250,000

Galúlá and Halúlá, ... — — 1,000 1,000 100,000

\*Ditto, ... 5 76 1,000 1,000 100,000

Desyn, ... — — 1,900 1,300 40,000

\*Ditto, ... 4 230 700 1,300 40,000

Deskere, ... — — 1,800 1,400 60,000

\*Ditto, ... 7 44(?) 1,000 1,000 70,000

\* Barley and rice.

			No. of Villages.	No. of Barns.	Wheat.	Barley.	Dirhams.
Beráz alrúd, ...	...	...	—	—	3,000	5,100	120,000
*Ditto, ...	...	...	6	26(?)	3,000	2,000	120,000
Bandanjayn, ...	...	...	—	—	600	500	85,000
*Ditto, ...	...	...	5	54	600	500	100,000
*The three Nahrawán, ...	...	...	21	380	—	—	—
Upper Nahrawán, ...	...	...	—	—	1,700	1,300	53,000
*Ditto, ...	...	...	—	—	2,700	1,800	350,000
Middle Nahrawán, ...	...	...	—	—	1,000	500	100,000
*Ditto, ...	...	...	—	—	1,000	500	100,000
Lower Nahrawán, ...	...	...	—	—	1,000	1,200	150,000
Baduráyá and Baksáyá,	...	...	—	—	4,700	5,000	33,000
*Ditto ditto, ...	...	...	—	—	4,700	5,000	330,000
Rustuqbád, ...	...	...	—	—	1,000	1,400	246,000
Silsyl and Mahrúd, ...	...	...	—	—	2,000	1,500	150,000
The Kúra (provinces) of the Tigris	...	...	—	—	—	—	—
yielded in A.H. 260 (266?),	...	...	—	—	9,000	4,000	430,000
Land-tax of the Kura (provinces)	...	...	—	—	—	—	*
of the Tigris, ...	...	...	—	—	—	—	8,500,000

In reference to the Ighár of Yaq̄tyn, mentioned in the preceding list, Qodáma says, no mention was made of it in the days of the Persians, nor was there such an Ighár existing in their times. Yaq̄tyn had claims on the government, and he received as payment lands in various districts, subsequently they lapsed to the government, and they were called Ighár of Yaq̄tyn. The canal of Çilla was dug by order of Mahdiy in the districts of Wásit, and thereby a good deal of waste land was reclaimed. The produce (of the Ighar and of the reclaimed land) was destined for prayers and defraying other expenses in the two holy places (Makka and Madyna). It is said the arrangement was made that two-fifths of the crops were to be given up by the cultivators for this purpose. This settlement was to last fifty years, after the lapse of which a new settlement was to be made.

Ighár (إغار) is correctly explained by Barbier de Meynard, dict. geogr. de la Perse, p. 65, "Il s'applique à une ville ou à une propriété qui, moyennant une certaine somme stipulée une fois pour toutes, et payée chaque année directement au souldhan, est exemptée de la visite et du contrôle des percepteurs du fisc." Qodamá defines it

الايغار هو ان تحمي الضيعة من ان يدخلها احد من العمال و اصحاب بها يامر الامام به من وضع شي عليها يودي في السنة اما في بيت المال او غيره من الامصار

“Ighár (protection against danger) means, that a landed tenure is exempt from the visits of the collectors and from what is connected with them (rapacity and oppression), in consequence of an order of the head of the State which fixes a certain annual quit-rent to be paid either into the public treasury, or into the treasury for the support of a military cantonment.” The principal advantage of an Ighár consisted in being free from those harpies, the Omras.

The provinces of the Tigris which form the last and largest item, may be those which were ceded to the Baçra government, and they seem to answer to those enumerated by Barbier de Meynard, p. 133, under Nos. V. and VI.

Some of the figures in the preceding table, taken from the very incorrect copy of Qodâma, are certainly erroneous, and may be corrected by comparing them with those of Ibn Khordâdbēh. It must, however, be borne in mind that the data reported by the two authors are not in all instances the same. At the time of Ibn Khordâdbēh, for instance, the whole of the revenue of the Tigris provinces seems to have been levied in cash, at the time of Qodâma partly in cash and partly in kind. For us the sum total alone is of some interest, and this is given by Qodâma, who says, *وذلك ارتفاع السواد سوى اصدقات البصرة من الحنطة ١١٧٢٠٠ كرو ومن الشعير ٩٩٧٢١ كرو ومن الورك ٨٠٩٥٨٠٠ درهم يكون عن الغلات باواسط الاسعار وهو حساب الكرين المقرين من الحنطة والشعير ستين دينارا وهو من العين ورقاعلي صرف خمسة عشر درهما بدينار ١٠٠٣٦١٨٥٠ درو مجموع ذلك الي الورك ١٠٨٤٥٧٦٥٠ وكانت صدقة البصرة ترتفع في السنة ٦٠٠٠٠٠٠ فجميع رتفاع لي ما بين من التسعين على العبر المبنية ١١٨٤٥٧٦٥٠ درهم*

“The revenue of the Sawád, exclusive the poor rates of Baçra, consists of 117,600 Korrs of wheat, 99,721 Korrs of barley, and 8,095,800 Dirhams of silver. The grain at the mean market price, that is to say at the rate of two Korrs, one of wheat and one of barley at 60 Dynárs, taking one Dynár at the present rate of exchange equal to 15 Dirhams, is worth 100,361,850 Dirhams. Adding this sum to the cash payments, there results a total of 108,457,650 Dirhams. The poor rates of Baçra amount annually to six million Dirhams, the

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PART I.—HISTORY, LITERATURE, &c.

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*A notice of the Çaunaka Smṛiti. By Professor GEORGE BÜHLER,  
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There is a passage in the introduction to Shadguruciṣhya's commentary on the Sarvānukramaṇī,\* which professes to give an account of the life and works of the ancient sage and writer on the Rig Veda, Çaunaka. It is stated there that Kātyāyana, who compiled the Sarvānukramaṇī, or "general index to the Rig Veda" from the separate indexes made by Çaunaka, knew and studied ten works ascribed to this author. The last, in the list given there, is "the Smṛta" or work on matters relating to traditional laws on ceremonies. In the Mānavadharmasāstra (III. 16) Çaunaka is also mentioned as a writer on law, and in modern works, such as the Dattakamīmāṃsā, Dattaka-chandrikā, Nirṇayasindhu, Samskārakaustubha, Vyavahāramayūkha, we find a number of ślokas attributed to this Ṛishi. A considerable portion of these verses treats of the law of adoption, and this circumstance induced me, when my attention lately was directed to the Hindu law, to make a search for the Çaunaka-smṛiti. By the recovery of this work I hoped to be enabled to decide a rather difficult question regarding the unconditional right of Hindu widows to adopt a son, which arises out of a reading, given by one of the modern law-books. Besides, as I believed with Professor Stenzler,† that the Çaunaka-smṛiti treated exclusively of adoption, I expected to gain

\* M. Müller, Hist. Sk. Lit. p. 233l.

† See Weber Ind. Stud. Vol. I. p.

fuller information regarding this difficult and interesting chapter of the Hindu law. My endeavours were successful, and I obtained two books, the one of which is known amongst our çāstris as the *Bṛihat*—or great—the other as the *Laghu*—or small, *Çaunaka-smṛiti*. The larger of these two works, which contains about 2,500 *çlokas*, is, however, in my MS. called the *Çaunakiyā-kārikā*, or “memorial verses of *Çaunaka*.” The smaller, which consists of about 300 *çlokas*, is called *Yajnāṅgadharmaçāstram*, “or the *Dharmaçāstra* connected with the sacrifice.”\*

The former of the two, the *Çaunakiyā-kārikā*, proves to be the work, which Nanda Paṇḍita the author of the *Dattakamīmāmsā*, and other writers on adoption, quote, and it appears, that not the whole of it refers to adoption, but only a small part, which has been given in the *Mayūkha* and in the *Samskārakaustubha* in its entirety. Though my hope to obtain fresh information regarding the law of adoption has therefore proved to be vain, I nevertheless venture to publish this notice of the work, as it assists to decide the question alluded to before, and as from a historical point of view some interest attaches to every work that bears the name of *Çaunaka*. My copy is a transcript of a MS. written in the end of the last century (*Çāka*, 1711, A. D. 1790), and by no means free from faults. But it will enable me to give an idea of the nature of the work.

The MS. opens with three verses which cannot belong to *Çaunaka*, but seems to have been added by some later hand.

They run as follows :—

Jayanti jagadātmānas tamah samxaya bhāṣharāh  
 Rāmānuja padāvāpta bhūṣhaṇāh purushottamāh  
 Çrutismṛiti-jalāpūrnāṁ çāstra-kallola-samkulam  
 Viṣṇubhakti-mahā-potam vandeḥam çaunakārnavam  
 Tatsatram çaunako drisṭvā svayam harsha samanvitah  
 Vyāpāthayatsvāham çishyam tam namāmyāçvalāyanam.

1. “Those best of men conquer, who are the souls of the world, the suns for the destruction of darkness, who are adorned (by the faith taught) by the feet of Rāmānuja.

2. I worship *Çaunaka*, who is comparable to an ocean, whose

\* In my copy the beginning is wanting. The book treats of sacrificial rites and seems to be of no importance for the Hindu law.

waters are the Çṛuti (Vedas) and Smṛitis, whose waves are the Institutes of science, and which is traversed by the great ship of the faith in Vishṇu.

3. I bow to Aṣvaláyana, his pupil, whom Çaunaka himself taught joyfully, after having seen that great sacrifice (in the Nimisha forest.)”

After this exordium, which evidently has been composed by a follower of Rámánuja, begins the work itself. It consists of :—

1. Paribhášás.
2. Sthálpákavidhi.
3. Mútrapuríshotsargavidhi.
4. Sandhyopásanávidhi.
5. Kámyajapavidhi.
6. Dhanárjanavidhi.
7. Snánavidhi.
8. Brahmajajnavidhi.
9. Devapújavidhi.
10. Vaiçvadevavidhi.
11. Kautukabandhanavidhi.
12. Ankurárpaṇavidhi.
13. Rituçántividhi.
14. Garbhálambhanavidhi.
15. Pumsavanánaavalobhane.
16. Símantonnayanavidhi.
17. Yátakarmavidhi.
18. Námakaraṇavidhi.
19. Nishkramaṇavidhi.
20. Annaprāçanavidhi.
21. Caulakarmavidhi.
22. Upanāyanavidhi.
23. Bhikshávidhi.
24. Anupravacanáyavidhi.
25. Medhájananavidhi.
26. Upákarmavidhi.
27. Utsarjanavidhi.
28. Mahávratavidhi.
29. Upanishadvratavidhi.

30. Godānavidhi.
31. Samāvartanavidhi.
32. Kanyābhyantaravidhi.
33. Vivāhalakṣhaṇavidhi.
34. Vadhūgrihagamanavidhi.
35. Madhuparkavidhi.
36. Kanyādānavidhi.
37. Vivāhavidhi.
38. Gṛihapraveçaniyavidhi.
39. Stambhabalividhi.
40. Abdapratishṭhāvidhi.
41. Udyānapratishṭhāvidhi.
42. Açvatthasthāpanavidhi.
43. Grāmapratishṭhāvidhi.
44. Atipatrahomavidhi.
45. Punahsamdhānavidhi.
46. Nāstikyādivisṛiṣṭāgnih punah samdhānam.
47. Dvibhāryāgnisamsaryavidhi.
48. Arkavivāha.
49. Putrakāmesṭhi.
50. Putraparigrahaṇavidhi.
51. Samāropanavidhi.
52. Pārvaṇasthālīpāka.
53. Prati                      sthālīpākavidhi.
54. Çravaṇākarmavidhi.
55. Sarpabaliḥ.
56. Açvayujīkarmavidhi.
57. Āgrāyaṇavidhi.
58. Abhishekaṇavidhi.
59. Grahaṇābhishekaṇavidhi.
60. Samkrāntābhishekaṇavidhi.
61. Rājābhishekaṇavidhi.
62. Paṭṭābhishekaṇavidhi.
63. Apāmṛityuhoṃah.
64. Āyushyahomavidhi.
65. Bṛihaspatiçānti.
66. Adityaçānti.

67. Adbhutaçánti.
68. Svapnotpátavidhi.
69. Vidyudagnividhi.
70. Valmikaçánti.
71. Gojaçánti.
72. Gojavagaçánti.
73. Açvataréçánti.
74. Yaxmaçánti.
75. Saxvarogaçánti.
76. Kṛityaçánti.
77. Çatruçánti.
78. Abhicáraçánti.
79. Jívaçráddha
80. Garbhinyudakasthádi samskáraavidhi.
81. Múlaçánti.
82. Açleshaçánti.
83. Vaidhṛiti vyatípáta samkrántividhi.
84. Grahaṇasútividhi.
85. Abdapúrtividhi.
86. Yatisamskáraavidhi.
87. Ahitágnerdeçántaramaraṇavidhi.
88. Brahmacárimaraṇavidhi.
89. Sarpasamskáraavidhi.
90. Abhyúdayaçráddhavidhi.
91. Kámyádiçráddha.
92. Piṇḍapitṛiyajnavidhi.
93. Párvanaçráddhavidhi.
94. Saptamíçráddha.
95. Aṣṭamíçráddha.
96. Anvaṣṭakíçráddha.
97. Naxatrahomaçánti.
98. Nárayaṇabali.

From this summary it will appear, that the work is more extensive than a Grihyasútra. It contains more matter than the latter class of works usually do, especially the çántis or "propitiatory rites" are peculiar to it. Besides, its descriptions of the various ceremonies are fuller and more detailed than those in the Sútras. They resemble



most those of the modern *Prayogas* or “Manuals.” On the other hand the work is not like a *Dharmasūtra* or *Dharmashāstra*, as it gives less the duties of a Hindu than a description of the various rites to be performed by him.

The first question which now obtrudes itself, is, whether this curious work is really a composition of the ancient sage *Çaunaka* or a production of later times. The fact, that so very frequently a new topic is introduced with the words “I, *Çaunaka*, will declare” (*Çaunakoham pravaxyāmi*) and similar phrases, would seem to furnish proof that the *Kārikā* is the original work of *Çaunaka*.

Besides there is some circumstantial evidence which makes in favour of this opinion.\* Firstly, nearly all the Mantras quoted are taken from the *Ṛig Veda* and show that the author was a follower of this Veda. As it is well known that *Çaunaka* belonged to the *Bahvṛicas*, this fact is of some importance. Secondly, many passages of the *Kārikā* agree almost literally with the *Sūtras* of *Āçvalāyana*, and these two works agree very closely in regard to some ceremonies which are unknown to the other Vedic schools. As, according to tradition, *Āçvalāyana* was a pupil and follower of *Çaunaka*, these points also speak for the authenticity of the *Kārikā*.

The rules regarding the *Garbhālabhana* and the *Anavalabhana*, two ceremonies to which are to be performed soon after marriage, furnish an instance of the close resemblance of the two works. *Āçvalāyana* says *Grihyasūtra* I. 13.1. *upanishad* ; *garbhalambhanam pumsavanam anavalabhanam* ca. I. 13.2 : *yad ? nādhīyāt*.

1. In the *Upanishad* are (prescribed) the *Garbhalambhana*, *Pumsavana*, and *Anavalabhana*.

2. If he does not study it ..... (he shall perform the following rite).

*Çaunaka* gives the following rules on this subject :—

*Garbhalambhah pumsavanam garbhasyānavalobhanam. Iti karmatravyamidam yajnopanishadēritam.*

*Tāmadhītavatah karma trayam tathaiva sugrahaḥ.*

*Anadhīta vā tas tvēṣha pra yogotra nibadhyato.*

“The *Garbhalambha*, the *Pumsavana* and the *Garbhānavalobhana*, these three ceremonies are enjoined in the *Yajnopanishad*. These three ceremonies, which are easily understood, (ought to be performed)

by him who has studied that (Upanishad). But for him who has not studied it, the following rite is ordained." The similarity of these passages has so much more weight, as *Āçvaláyana* and *Çaunaka* are the only writers on *Grihya* ceremonies known, who mention the two ceremonies. Another case in which the *Káriká* and the *Grihyaçútra* fully agree is the order of the forms of marriage. In *Āçvaláyana*'s enumeration the *Pañcáca* form stands last but one, and the *Ráxasa* form last. The *Káriká* gives the same order, whilst *Manu*, *Yájñaval-kyá* and *Vishṇu* make the *Pañcáca* form follow the *Ráxasa*. It would be easy to multiply these instances of resemblance between the two works.

But though the work announces itself as proceeding from *Çaunaka*, and though there is apparently some circumstantial evidence supporting this claim, there are also some points which make it highly improbable that *Çaunaka* is its immediate author.

Firstly, the *Káriká* advocates the *Vaishṇava* faith. *Vishṇu* is repeatedly called the *devadeva*, the "god of gods," the worship of the *Tulasí* plant is frequently enjoined, and peculiar rites and symbols of the *Vishṇu*ites, such as the *náraca*, the *padmáxa* and *tulasímaṇi*, the *cakramudrá* are occasionally mentioned. Though the worship of *Vishṇu* may possibly be very old in India, nevertheless it is hardly probable that the adoration of the *Tulasí* should be derived from the times of *Çaunaka*, who certainly lived before *Pánini*. *Anandagiri*, the disciple of *Çankarácárya*, is, as far as I know, the first writer who testifies, that in his times divine honours were paid to this plant.

This circumstance prevents me from considering *Çaunaka* as the immediate author of the *Káriká*. But as the work so ostentatiously uses the name of *Çaunaka*, and certainly teaches on the whole the ritual of the *Rig Veda*, and moreover shows in many points a close affinity with the *Āçvaláyanaśaútras*, I am inclined to consider it as a redaction of the old *Çaunaka-smṛití* by a *Vaishṇava*. Some other points confirm this opinion.

Firstly, the title *Çaunakíyákáriká* itself suggests the idea of a verified redaction of an older work. The word *Káriká* is used to designate "memorial verses," such as the verses attached to *Pánini*'s grammar, and a class of works on scientific subjects composed in the *Anushtubh* metre. Thus we have a *Sámkhyakáriká*, *Mandúkopanishat-*

kārikā, an Aṅvālayānagṛīhya-kārikā, Çāṅkhāyana-kārikā. But the Sāmkhya kārikā is confessedly later than the Sāmkhyaśūtras, the Aṅvālayāna-kārikā is said to be composed by Kumārīlabhaṭṭa, the Māndūkopaniṣad-kārikā of course claims not the authority of the Upaniṣad itself.

It is therefore to be expected that the Çaunakīyā-kārikā likewise is merely based on a Çaunaka-smṛiti.

The second circumstance, which is in favour of our theory, is that sectarians in general, and the Vaiṣṇavas in particular, have also in other cases both worked up older Smṛitis into new forms and interpolated them with additions of their own, and even composed some new ones under old names. I hope soon to give this question a fuller consideration, and content myself with mentioning here two cases. The one is that of the Viṣṇu-smṛiti, which seems to be a Vaiṣṇava redaction of an older Sūtra, and the second that of the Brihadhārīta-smṛiti, which is a modern work, teaching exclusively the Vaiṣṇava rites and doctrines.

It is of course impossible to say which parts of the Kārikā are new, and which old. But, in favour of the older work, we can at least make a tolerably safe conjecture. I have remarked already that the Kārikā does not resemble exactly either a Dharmasūtra or a Gṛīhyasūtra. We find also a number of quotations from Çaunaka in the Mītāksharā, Madanapārijāta, and Parāçara-mādhava, which evidently are taken from his Gṛīhyasūtra, but to which nothing in the Kārikā responds. The fact is, that our Kārikā most probably is a versification of a number of Parīṣiṣṭas belonging to the Çaunaka-gṛīhyasūtra. Several collections of Parīṣiṣṭas treating of Gṛīhya ceremonies are in existence. One of them belongs to the Sāma Veda, and includes a mahānāmnīvratavidhi, a upaniṣadavratavidhi, a śnānavidhi etc. Another such collection is tacked to the Baudhāyana-gṛīhyasūtras. It closely resembles that contained in the Çaunakīyā-kārikā. It begins, just as this, with Paribhāṣās and contains more than a hundred divisions, which treat of nearly the same subjects, as Çaunaka's work, *i. e.* Samskāra, Çānti and Çrāddha. The language is mostly prose, only a few divisions are in verse. Each part begins with the words "athāto ..... vidhimvyākhyāsyāmah. "Now then we shall explain the rule for ....., " and generally ends

with "Atháha bhagaván baudháyanaḥ, thus says the venerable Baudháyana," or a similar phrase. Amongst other interesting matters we find in it also the 'rule of adoption' quoted by Nandapaṇḍita in the Dattakamímámsá. I shall give it below, and it will serve to show how great the resemblance is between the two works. What purpose these Pariṣiṣṭas served, and whether they belong to the same authors as the corresponding Sūtras, are questions which are open to discussion. But the circumstance that Baudháyana's 'vidhis,' as well as those belonging to the Sāma veda, are chiefly in prose, strengthens the supposition that the Çaunakiyá káriká has been remodelled and verified by some later writer. It is not at all improbable that this Vaishṇava author, and the follower of Rámánuja who composed the introductory verses, are the same person, and that the work in its present shape is not older than the thirteenth or fourteenth century; for the Mítákshará and its immediate predecessor never quote this work. In the chapter on adoption it is not mentioned at all, and Viṣveṣvara as well as Vijnāneṣvara elsewhere quote a Çaunaka in prose. On the other hand Devanābhaṭṭa and Nandapaṇḍita, who are both Southerners and countrymen of Rámánuja, quote it.

I now proceed to give the text and translation of the Putrasamgrahavidhi, according to my MS. compared with the Dattakamímámsá of Nandapaṇḍita, the Dattakacandriká, the Vyavahára-mayúkhā and the Samskárakaustubha. There appear to have existed two redactions, one followed by the Dattakamímámsá and the Dattakacandriká, the other by the MS. and the other books mentioned. I cannot believe that this circumstance is accidental, especially as it repeats itself in the use of the Baudháyana-pariṣiṣṭa, where the Samskárakaustubha and my MS. are likewise opposed to the Dattakamímámsá and Dattakacandriká. Devanābhaṭṭa and Nandapaṇḍita are both Southerners, and the authors of the Mayúkhā and of the Samskárakaustubha, as well as the possessors of the originals from which my copies are taken, are all Mahārāshṭradeshaṣṭha Brahmans, it would therefore seem that both in the case of the Çaunaka-káriká and that of the Baudháyana, there existed, two redactions, a Mahārāshṭra and a Southern.

I give here the text of the former, as it is the shorter one, and the additions of the latter in the notes.

1. Çaunakoham pravaxyāmi putrasamgrahamuttamam.  
Aputro mṛitaputro vā\* putrārtham samuposhya ca.†
2. Vāsasī kuṇḍale dattvā ushṇīṣham‡ cāngulīyakam.  
Ācāryam dharmasamyuktam vaiśhpavam vedapāragam.
3. Barhiḥ kuçamayam caiva pālācam cedhmaneiva ca.  
Etānyāñṛitya§ bandhūmçca jñātināhūya yatnatah.||
4. Bandhūnannena sampūjya¶ brāhmanāmçca viçeshatah.  
Agnýādhánádi\* yat tantram kṛitvājyotpavanántakam.†
5. Dátuh samaxam gatvá tu putram dehítí yácayet.‡  
Dāne samartho dátásmai ye§ yajne neti pancabhih.
6. Devasya tveti mantreṇa hastábhyām parigrihya ca.  
Angádangetyricam japtvá cághráya|| cicumúrdhani.
7. Vastrádhībhīralamkṛitya putracháyāvaham¶ sutam.  
Nṛityagítaicça vádyaiçca svastiçabdaicça samyutam.\*

\* Datt. mīm. page 1, line 6, Calcutta edition, bandhyo mṛitaprajo vāpṣti páth-  
ántaram. But ibid. page 32, line 1, this reading is attributed to Vṛiddhagautā-  
ma. The sense remains the same, only the use of the word bandhya is re-  
markable.

Samsk. kaust. fol. 47, page 1, line 3, Bombay lith. ed. 1 : bandhyá mṛitaputrā  
vāpi ; i. e. "a woman who is barren or whose children have died." This read-  
ing, if correct, would authorise women to adopt without having obtained the  
permission of their husbands or relations. But it is wrong, because in v. 13  
and 14, the adopting person is spoken of in the masculine, and because Vedic  
rite cannot be destined in the first instance for women. Perhaps the reading  
was intentionally altered from that given in the Datt. mīm.

† S'aun. kár. svakulasya ca "and for the sake of his family," gives no good  
sense.

‡ S'aun. kár. "coshñīṣham." It seems to be a correction in order to avoid  
the hiatus which, however, is of common occurrence in the Anuṣṭubh of the  
Dharmaśāstras. S'aunsk. kaust. "chattram, an umbrella," for dattvā. The  
whole then depends on ūñṛitya.

Datt. mīm and Datt. chand. add after this one half śloka : madhuparkena  
sampūjya rājāham ca dvijān çucín, i. e. "having honoured the king (or lord of  
the village) and pure Brāhmans with the Madhuparka," according to the Datt.  
chand. p. 65, l. 7 Calcutta edition, the verse also occurs in the Vṛiddhagautā-  
masmṛiti. If inserted here, it disturbs the construction.

§ Etánāñṛitya. Datt. mīm., Datt. chand. and Vyav. May. The neuter is the  
form required by the grammar.

|| Sattamah, Vyav. May.

¶ Annena sambhajya ; Datt. mīm, Datt. chand. Vyav. May.

\* Anvādhánádi yat ; Vyav. May.

Agnýādhánikam tatra Datt. mīm. Datt. chand. Anvādhána means a kind-  
ling of the fire preceded by a statement of the objects of the ceremony  
(samkalpa).

† Otpavanádikam S'aun. kár., Vyav. May. Datt. mīm.

‡ Vácayet ; S'aun. kár.

§ Dátásau ; S'aun. kár., dátásmi Vyav. May.

|| Aghráya ; Datt. mīm. Datt. chand.

¶ Chatracháyágatam ; Samsk. Kaust., i. e. walking under the umbrella.

\* Samyutam ; Samsk. Kaust.

8. Grihamadhye\* tamādāya carum hutvá vidhánatah.  
Yastvá hṛidetṛyricācaiva tubhyam agra ricāikayá.†
9. Sono dadadityetábbih pratyricam pancabhistathá.  
Svishtakridádihomam ca kṛítvá‡ çesham samápayet.
10. Bráhmaṇáuám sapindeshu kartavyah putrasamgrahah.  
Tadalábhesapindeshu§ anyatra tu na kárayet.\*
11. Xatriyánám svajátan vá gurugotre samepi vá.||  
Vaiçyánám vaiçya-játेशु¶ cúdránám cúdrajátishu.
12. Sarveshám caiva varṇánam jātishveva na cányatah.  
Dauhitram bháginēyam vá cúdránám cápi dápayet.\*
13. Naikaputrena kartavyam putradánam kalúcana.  
Bahuputrena kartavyam putradánam prayatnatah.
14. Daxinám gurave dadyád-yatháçakti† dvijottan||.  
Nripo‡ rāshṭrārđhamevāpi§ vaiçyo vittaçatatrayam.||
15. Cúdrah sarvasvamevāpi açaktaçced yathábalam.  
Iti çaunakakárikáyám putraparigrahavidhih.

1. I, *Çaunaka*, will declare the most excellent (rule) for adopting a son. A person who has no son, or whose son has died, should fast (on the day preceding the ceremony) for the sake of a son.

2. (He then should) place (in readiness¶) two garments (upper

\* Adhyetamádhāya; Datt. mīm., Datt. chanda—grīhamotyedhmamádāya, *v. e.* having returned home and placed fuel on the fire; S'aun. kár.  
† Yastváhṛidetṛyricācaiva. Datt. mīm. yastváhṛidetṛyricācaiva. Datt. chand. yastváhṛidetṛyricācaiva tu. Samsh. Kaust.

‡ Hutvá; Vyav. May.—çesham ca kṛítvá homam samápayet. Samsk. Kaust.

§ Asapindo vá, Vyav. May. Datt. mīm.

|| Gurugotrasamopi vá; Vyav. May. gurugotrasamopi vá. Samsk. Kaust.

¶ S'údrajātishu S'aun. káriká and Vyav. May. against the metre.

\* Caryadi; S'aun. kár. The reading in itself is senseless; but seems to point back to cápi dápayet. The reading given in the text is made up from this and the Samsk. Kaust. "S'údránámapi dápayet." The readings of the other works differ very much from ours:—

Dauhitro bháginēyaçca	{ cúdrasya,
Pi ca díyate	{ cúdraistu,
Kriyate sutah	{ Vyav. May.
	{ Datt. mīm. Datt. chand.

After this verse, Datt. mīm. page 19, line 12, insert half a S'lóka: bráhma-nádi traye násti bháginē—yah sutah kvacit, *v. e.* amongst the three castes beginning with the Bráhmaṇa, a sister's son is nowhere adopted. The half verse is quite superfluous.

† Dattvá. S'an. kár., Vyav. May.

‡ Nripa; Datt. mīm.

§ Evátha; Datt. mīm. Datt. chand.

|| Batnaçatatadvayam; Samsk. Kaust.

¶ Borradaile translates according to the prayoga given in the Mayúkha: having given two pieces of cloth..... to a priest..... But the verb dá does

and lower) a pair of earrings, a turban and a finger-ring, procure a virtuous priest of the Vaishṇava faith, who has studied the Vedas to their end,

3. A layer of Kuça grass\* (to place the *Ajyasthālī* upon) and fuel of *Pālāça* wood, and pressingly invite his *Bandhu* (cognates) and his *Sapinda* relations (gentiles).

4. Having (next) honoured his relations by (placing) food (before them) and especially the Brahmins, he should perform the ceremonies beginning with the kindling of the sacred fire, and ending with the purification of the liquid butter.†

5. He (then) should go to the person who is going to give away (the boy) and order (the *Acārya*) to ask him, saying: "Give the child."

6. The person who gives (the child to be adopted, then says): I have authority to give (him the boy, and recites) the five (verses‡ beginning with:) "Who by the sacrifice."

7. (The adopter) should (then) receive the (boy) (drawing him into his legs) with his hands (reciting) the Mantra: "In the creation of *Sāvitrī*, &c." and mutter the verse: "From the several limbs, &c." and touch with his nose the child's head.§

8. He (then) should adorn the child which (now) resembles a son of the receiver's body, with the dresses and other (ornaments mentioned before).

9. Afterwards (he should) go to his (own) house accompanied by the (boy) with dancing, songs, and sounds of music and blessings,

not take the accusative of the thing given and of the person. The latter ought to stand in the dative, genitive, or locative. Besides, as I am informed, it is not the custom to give such presents to the *Achārya* at the beginning of the ceremony. The above translation is confirmed by the corresponding passage of *Baudhāyana*. I take the literal meaning of *dattvā* here to be "tyúyam kṛtvā."

\* *Borradaile*: "a bunch of sixty-four stems entirely of *Kuça* grass." I am informed, that so much *Kuça* grass is usually taken as can be held by joining the tip of the fore-finger to the tip of the thumb.

† A blade of *Kuça* grass (*paritram*) is placed lengthwise into the *Ajyasthālī*, and moved first horizontally and then upwards in order to take away insects, &c., that may have fallen into the ghee. This operation is repeated three times. (Oral information.)

‡ *Rig. Veda*. ix. 62, 1—5.

§ *Aghrā* is usually wrongly translated by 'kissing.' Regarding the correct meaning of the term and the origin of the custom, see my notice in *Benfey's Orient und Occident*.

and offer a burnt offering (of dressed rice) according to the rule, (reciting the verses, "I who within my heart, &c." and "To thee at first, &c.," and the five (verses), "Soma gave her, &c.," (presenting an oblation\*) with every verse. Having then performed the Srishtakṛid, and the other offerings, he should finish the remainder (of the ceremony,) i. e. *Açírváda*, *dakshinádána*, &c. \*

10. Brahmans should adopt amongst their Sapiṇḍa relations, and if (a Sapiṇḍa) be not obtainable, amongst those (Brahmans) who are not Sapiṇḍas; but amongst others (persons of a different gotra) it should never be done.

11. Xatriyas (must adopt) (members of) their own family, or in a family, which has a spiritual teacher of the same (Brahminical) Gotra; Vaiçyas amongst Vaiçyas, and Çúdras amongst Çúdras.

12. And (persons) of all castes amongst their classes only, not otherwise. Amongst Çúdras he (the king) may (allow?) also a daughter's or a sister's son to be adopted.

13. No person, who has only one son, ought ever to give (him to be adopted); but a person possessing many sons ought anxiously to do so.

14. A Brahman ought to give a fee to the (officiating) priest according to his ability, a king even a half (of the income) of his kingdom, and a Vaiçya three hundred pieces (of money).

15. A Çúdra even all his property, or if he be poor, according to his ability.

Here ends in the *Çaunaka káriká* the rule for the adoption of a son.

In order to afford a comparison with *Çaunaka's* text, and on account of the interest which attaches to all the old authorities, I append the text and translation of *Baudháyana*. The text is based on my MS. of *Baudháyana's* work on *Grihya* ceremonies, where it forms the *Adhyáya* of the second *Praçna*, corresponding with the *Dattakamímámsá*, the *Dattakachandriká* and the *Samskárakaustubha*.

1. Putraparigraha vidhim† vyákhyásyámah.

2. Çonitaçukrasambhavo mátripitrinimitakas tasya pradánaparityágavikrayeshu mátápitarau prabhavatah.‡

\* Yastvá, R. V. verse 4, 10.—Tubhyámagna, R. V. x. 85, 38.—Somadadad. R. V. x. 85, 41—45.

† Putrapratigraha Samk. Kaust. f. 47, page 2, line 3, Bombay lith. ed.

‡ S'opite S. K.



3. Na tvekam putram dadyāt pratigrihñíyádvá sa hi samtánáya púrveshám.

4. Na tu strí putram dadyāt pratigrihñíyád ványatránujñánād bhartuh.

5. Pratigrihíshyannupakalpáyate dve vásasí dve kuṇḍale angulíyakam cácáryam\* vedapáragam kuçamayam barhiḥ paṇṇamayamidh-mamiti.

6. Atha bandhúnáhúya† madhye rájani cávedya parishadi vágára-madhye bráhmaṇánannena parivishya‡ punyáham svastyridhdimiti vácayitvá.

7. Atha deva yajanollekhana§ prabhṛityá prañítábhyah dátuh samaxam gatvá putram me dehíti bhixeta.||

8. Dadámí¶ títara áha.\*

9. Tam parigrihñáti† dharmáya tvá grihñámi samtatyai tvá grih-ñámíti.

10. Athainam vastrakuṇḍalábhyám angulíyakena cálanakṛitya paridhánaprabhṛityáguimukhát† kritvá pakvānnam§ júhoti.

11. Yastvá hṛidá kíripá manyamána iti puronuvákyāntanúceya riviktá|| yasmai tvam sukrite játaveda iti yájjayá júhoti.

12. Atha vyáhṛitír hutvá svishtakṛitprabhṛiti siddhamádhenu-vara pradánát.

13. Daxiṇám dadátyete eva vásasí ete eva kuṇḍale etatecāngu-líyakam.

14. Yadyevam kṛitvaurasah¶ putra utpadyate turíyabhāgesha\* bhavatí ti smáha baudháyanaḥ.

1. "We shall declare the rule for the adoption of a son.

\* Angulíyaka ácharyam. Datt. mím.

† Niveçanamadhye Datt. mím.—niveçanasya madhye Datt. cand.

‡ Bráhmaṇavágálambenopaviçya, sitting down according to the order of the Brahmins.

§ Devayajamánollekha. S. K.

|| Bhixet. Datt. mím. and Datt. cand.

¶ Dadámíto.

\* Áha left out by S. K.

† Atoham parigrihñámi S. K. tam parigrihñíteti Datt. mím. Datt. cand. reads parigrihñámi in every case for grihñámi.

‡ Agnimukhán S. K. agnimukham Datt. mím.—Datt. cand.

§ Paktvá Datt. mím.—tyaktvá Datt. cand.

|| Anúdyá, Datt. mím. and Datt. cand.

¶ Evamtvaurasah. Datt. mím. Datt. cand.

\* Turíyabhāge prabhavatíti. S. K. turíyabhāgesam bhavatíti. Datt. mím. and Datt. cand.

2. "(A son) is produced from the seed of the male and the blood of the female. His mother and his father are the cause of his existence. His mother and his father have (therefore) the right to give him away, to abandon or to sell him.

3. "But nobody should give or receive an only son. For he is (wanted) to continue the line of his ancestors.

4. "But a woman should neither give nor receive a son without the permission of her husband.

5. "(A man) who is about to adopt a son, procures two garments, two earrings, and a finger-ring, a priest who has studied the Vedas to their end, a layer of Kuça grass, and fuel of Pálāça-wood. Thus (is the rule).

6. "Then, having invited his relations to his (dwelling) and informed the king (of his intention to adopt), and having, in the assembly or in his dwelling, served the (invited) Brahmans with food, he should cause them to pronounce the benedictions: "(May) the day (be) auspicious! Hail (to thee)! Prosperity (to thee)."\*

7. "Then having performed the ceremonies, beginning with drawing the lines on the altar, and ending with the placing of the water vessels, he should go to the giver (of the child) and ask him (saying): Give me (thy) son!

8. "The other answers: I give him.

9. "He receives him (the child with these words): I take thee for the fulfilment of (my) religious duties; I take thee to continue the line (of my ancestors).

10. "Then he adorns him with the (above mentioned) two garments, the two earrings and the finger-ring, and having performed the ceremonies beginning with the placing of the (pieces of wood called) *paridhis*, (fences around the altar) and ending with the *Agnimukha*,† he offers boiled rice into the fire.

11. "Having recited the *Puronuvákya*‡: 'Who thinking of thee

\* All the verbs down to 'he should ask' stand in the text, in the absolute. I make a division after *vácayitvá*, as the first part of the preparatory ceremonies before the Homa closes with the *punyáhavācanam*. The formula of this rite is the following: The performer says, Sirs, wish (me) an auspicious day! Brahman: Om, may the day be auspicious, etc.

† I am not certain about the meaning of this word. But it may possibly indicate the oblation to Agni, which are offered to the eyes of this god, i. e. in the north-eastern and south-eastern corners of the altar.

‡ Taitt. Veda. i. 4, 16. The *yastuvājya* is found in the same *kānda*.

with a discerning mind,' &c., he offers an oblation with the Yájya : 'To whom the performer of good deeds,' &c.

12. "Then having offered the (oblations accompanied by the recitations of the) Vyáhr̥itis, he finishes the ceremonies, beginning with the oblation to Agni svishtakṛit, down to the presentation of a cow and presents (to the officiating priest).

13. "He presents (to him) as sacrificial fee, those two pieces of cloth, those two earrings, and that finger-ring (with which he had before adorned the child).

14. "If after the performance of these rites a (legitimate) son is born (to the adopter) (then the adoptive son) receives a fourth of (the son's) share. Thus says Baudháyana."

It now remains for me to return to the question, how far the recovery of the *Çaunaka káriká* affects the law of adoption. This chapter of the Hindu law is in a worse state than any other, chiefly because there is not, as in the case of Inheritance, Divisions, &c., for each school of lawyers one paramount authority, which lays down its fundamental rules and its principles. The *Dattakamínámsá* of Nanda Paṇḍita, it is true, enjoys a certain esteem all over India, but, in the Bombay Presidency at least, not to such an extent, that it would overrule the conflicting opinions of all other writers. On the contrary, besides this work, the Bombay Pandits always consult and frequently follow four other works, the *Vyavahára-mayúkha*, the *Nirṇayasindhu*, the *Samskárakaustubha*, and the *Dharmasindhu*.

On account of this state of things, the Hindu lawyer will be called upon to examine the principles on which the conflicting opinions rest much oftener in this part of the law, than anywhere else. It is therefore also most important to possess the ancient original works in their integrity from which the modern writers profess to draw their opinions, and to know their history and critical condition.

One of the points in the law of adoption, on which views directly opposed to each other are advocated by writers of eminence, is the question whether a Hindu widow has the power to make an adoption.

Nanda Paṇḍita distinctly denies her right to do so under any circumstances whatever. Nílakanṭha, the author of the *Mayúkha*, permits it, provided the widow has obtained the permission to do so from her husband before his death, or can procure the sanction of her rela-

tions and guardians after his death. The Nirṇayasindhu, the Samskāraustubha, and the Dharmasindhu declare that a widow may adopt without the permission of her relations.

The advocates of the ~~other~~ opinion give, as one of their principal arguments, the second half of the first verse of the Ṣaunakasmṛiti, where they read: 'Vandhyā mṛitu putrā vāpi.' 'A woman, who is childless or whose sons have died (may adopt).' If this reading were correct, a widow would certainly have the right to adopt, as she pleases. But I have already pointed out in the note appended to the text, that it is wrong, and perhaps a clumsy forgery of the advocates of the widows' rights.

This example will suffice to show, how the recovery of the original Smṛitis may be turned to some use for some practical purpose in the discussion of points of the Hindu law, important even if their importance for the reconstruction of its history be left out of sight.

*Notes on Atranji Khēra or Pi-lo-shan-na of General CUNNINGHAM, (vide Continuation of Report for 1862-63, No. VIII. page 15.)—By C. HORNE, Esq, C. S.*

[Received 5th January, 1866]



This morning Dr. Tyler kindly drove me, by a country road viâ Rah and Sirnow villages, some ten miles to the village of Achulpow, nearly north of Etah, crossing, when within a mile of the said village, a ravine styled the Kalee Nuddee. Just beyond this village, of which it forms a part, rises the huge Khēra or Mound, which, I was informed, contains in its area 500\* statute beegahs of land. The height varies from 40 to 50 feet, and it forms a very imposing object, and is covered with scattered broken bricks and fragments of pottery of great thickness, being likewise garnished with a few bushes and two or three peepul trees.

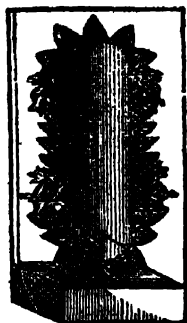
The circuit, as by the measurements of the Moonshee deputed by General Cunningham, is as follows:—Length at base 3,250 feet with a breadth of 2,550 ft. The general form is rectangular, although it is

\* Equal to 198½ acres.

not quite regular; and there are two openings, evidently artificial, called "gates" by the natives. These are at their base about 75 feet in width, and they had buildings on either side. One of these is on the east side near to the north-east corner, and the other on the west side near to the south-west corner. There is also a modern cart-track running through the midst in a kind of hollow.

The surface of the Khera undulates much, making a series of miniature downs. This effect has been caused chiefly by the agency of water; but there were doubtless elevations and depressions in the original city, the site for which was finely chosen. Around the whole is cultivation, and at a little distance in the east flows the Kalee Nuddee river, so that the view from the top is very striking and beautiful; masses of mango trees in the distance fringed in front with many thousands of palm trees, with a carpet of green winter crop at their feet, stretching to the shining expanse of the bounded water of the Kalee Nuddee in the foreground, form a picture which led my companion to remark upon it, and would captivate the eye of the most apathetic of observers.

At the south-eastern corner, distant a few hundred yards, is an out-work—a mound on which had once stood extensive buildings, now being excavated to their very foundations for the bricks they contain. These bricks measure  $14'' \times 8\frac{3}{4}'' \times 2''$  only, are not very well burnt, and do not carry the appearance of great antiquity. None of them bore any inscription stamped on them; although some seemed to have been moulded thus:  as though they had formed part of some ornamental moulding, and I was told of others bearing marks like this  evidently those of the finger on the moist clay—which I have often found in other places, and the meaning of which I do not know. On this mound, irregularly placed, are three lingams which appear very recent. They are of sandstone and may have been cut from columns. I measured one of them 1 foot 6 inches in height, and about 2 feet in diameter, whilst within a small recent enclosure were two more: one of which was placed in the middle in a pavement of stucco, without any *Yoni*; and the other leaning against the back wall—a slab in relief and perhaps 5 feet in height.



I give in the margin a rough sketch of the last mentioned, and may remark that none of them appeared to have been much worshipped—if at all.

Also leaning against the wall was the figure of a four armed figure of Durga, in relief on a slab, treading on a prostrate form. This was of no antiquity.

After ascending the mound at the south-east corner and proceeding perhaps two or three hundred yards, we came upon a small eminence, by no means the highest point of the Khera, where foundations have been excavated. These foundations appear to have been circular and to have had for diameter about 54 feet, an ample base for the support of a tower of 100 feet, as described by the Chinese travellers.

Proceeding still farther north and keeping at a distance of about 100 yards from the eastern face, we came to another mound in which the excavated trenches shew a building to have once stood. The thickness of the foundation walls would indicate a building of some elevation.

This eastern face runs nearly parallel to the Kalee Nuddee, and proceeding in the same direction, we came to the "gate" before alluded to.

On the other side of this, the mound is higher, and is now covered with scrub jungle of Korunda and Bair, inhabited only by black partridges, hares, plovers, and large grey owls.

This is used as grazing ground by the villagers; and it is here, in and after the rains, that the herd boys find the old silver Hindu coins, six of which were given to me by the Zemindar of Achulpoor, Kullian Sing Thakoor, a most obliging guide, whose son takes an intelligent interest in the Khera.

These coins were all of the same type, viz. the nail-headed character, the marks here indicated being often found on them.



On this part of the mound undoubtedly stood the principal buildings; although I could not trace even a single foundation.

To the north was visible, at a short distance, another outwork which had originally borne a building, but the mound was much lower and smaller than that at the south-eastern corner. Continuing round the mound, I came at another place to foundations of no note, and saw to the west three smaller mounds, in which no traces of buildings, save broken bricks, probably thrown on them from the fields, remained.

I also came to the other gate, after crossing the cart-track shewn in the plan. The circuit, which I did not measure, might have been about two miles.

The fact that this mound has served as a huge brick kiln to the surrounding country, lying within a radius of eight miles, for the past 7 or 800 years, readily accounts for the absence of all other traces of buildings, and it was with the greatest difficulty I was able to find an entire brick to measure, and I much fear that no good would result from any excavation made in this spot. Block kunkur must have been used instead of stone, and all the remains of this have been utilized by succeeding generations for lime and road-making, so that not a trace now remains.

*Etah, December, 1865.*

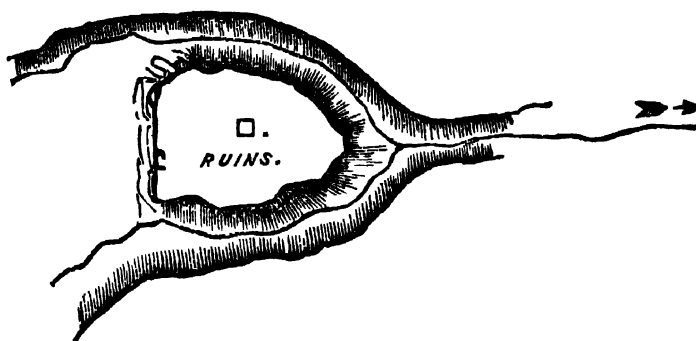
*Notes on some Buddhist Ruins at Doob Koond.—By Captain W. R. MELVILLE, in charge, Gwalior Survey.*

[Received 31st January, 1866.]

I discovered the other day some totally new Buddhist ruins and an inscription, two copies of which are sent in a tin case with this note.\* I have also taken five photographs of the sculpture in different parts of the temple, but I shall be unable to print off copies until my return to recess quarters in April. This temple is situated in the dense forest on the left bank of the Koonoo river, one of the southern tributaries of the Chumbul. I first passed through these jungles in the cold weather of 1863, and I always, from the first, had an idea that these

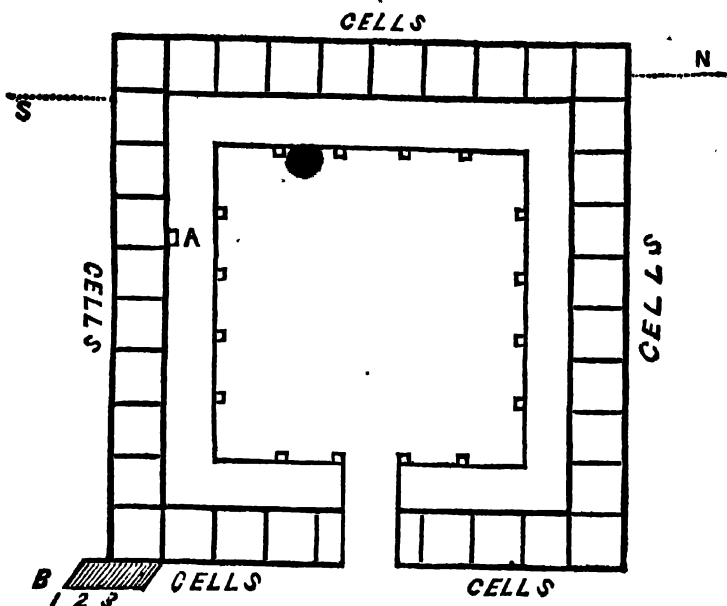
\* The inscription will be published hereafter. Ed.

jungles had formerly been much better inhabited than now, but though I have always been looking out for some remains of old buildings, these are the first of any importance I have come across. This temple is situated about three miles almost due north of the village of Buryon in the Keruhl Tehsil, at the place where the Purney river (which up to there runs along the surface of the ground) first begins to form what is called a Kho, or a narrow valley with perpendicular sides. The place is called Doob Koond. The origin of the name, according to the native tradition, is mentioned in the enclosed Memo. The temple is situated in the middle of a fortified enclosure situated on a peninsula, the neck of which is defended by a fortified



wall (as shewn above), and all around it there is a mass of ruined houses and the remains of several smaller temples, in which, however, I was unable to find any inscription. The centre temple, which seems to have been the most important, and in which the inscription was found, seems to have been a square about 100 feet each side, with an open court in the centre surrounded by cells, each of which seems to have been devoted to the worship of some particular divinity. There is only one entrance, on the eastern side, and that side has only seven cells, while the three others have 8 each, making a total of 31. There is a covered verandah running all round outside the cells. The following sketch will give a rough idea :





A. Inscription cells.

B. 3 large statues.

The carving that remains, especially inside the cells, though much injured, is most beautiful. Each of the cells seems to have had a sort of arched canopy carved with elephants, &c. and supported by two figures, one on each side. Below this canopy is a sort of pedestal, on which, I conclude, stood the image of the Deity to whom the cell was dedicated. The elephants are beautifully carved, and their attitudes very natural, and not at all stiff. Just on your left, as you enter, are three large statues of male figures, quite naked and standing. The largest is in the centre. They each have a sort of canopy over their heads, and on the glory round the head of the principal figure you can still see marks of paint. Many of the figures inside also seem to have been painted. The three large figures inside are buried in debris up to their waist. The temple is built of large blocks and slabs of sandstone, which are not, I think, cemented. The roof to each of the cells is formed in the following way: on the first four slabs placed square, smaller blocks are laid across the corners, and on the

top of these four smaller slabs forming a smaller square, which is covered with a single square slab. The inscription is at the southern side of the temple; it is an oblong slab, and the letters have been very carefully sculptured on it, and seem to have been filled with a sort of enamel. It has a projecting stone over it, intended, I suppose, to protect it from the weather; it is between two of the cells under the covered verandah.

On each side of the peninsula on which the temple is situated, there are two deep pools or koonds which never dry up, and which, I fancy, led to this place being selected for a village.

Outside the enclosure and a little higher up the river, on the river bank, there is another temple which looks modern, but which has a figure in it evidently taken from the old temple. Inside the enclosure there are the remains of several other temples, but I could find nothing in them but broken images. Being busily occupied with my survey duties, I had very little time to explore, but I dare say that careful investigation would bring something more to light. The only way I had of taking off the inscription was with blue chalk, but as this was not as distinct as I wished, Baboo Joala Pershad, one of my native surveyors, was kind enough to copy the inscription for me, and I enclose a memo. he made about the temple at my request. I was unable to photograph the inscription on account of the want of light and the smallness of my lens. I hope that the inscription may throw some light on the date of these interesting ruins.

It is a curious fact that these ruins were unknown to any of the natives, except the sheriahs or half savages that inhabit this jungle.

CAMP GWALIOR TERRITORY, *vid* AGRA,

*January 25th, 1866.*

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*Memorandum about the Doob Koond Temple, by JOALA PERSHAD.*

The inscription, as far as I can read it, states that in the year 741 of the Christian era, this temple was situated in the village of Mahabux, and that it was dedicated to the gods—Nemji, Sri Budya, and Chinamusta.

In 688, Umr Sing and Beja Sing, gooroos, came by the order of Muharaja Chundruk in the reign of Behram Sing.

In the reign of Behram Sing, Pandoo and Gubraj, two brothers,

repaired the temple and instituted the worship of Chunder Perboo, and made two baolies, one on each side, the one on the north was called Umr Sing Baoli, and the one on the south Beijsa Sing Baoli.

The old sheriahs have a legend that Behram Sing and the two brothers came to see the temple when it was finished, and all the images burst out laughing. Berham Sing then ordered lime to be put on their faces.\*

All the legends about this place seem to show that formerly it was a very celebrated temple and a great place for pilgrimage. They state that (at a date unknown) many years ago a raja† from the west came with an army to this temple, carried off the gold and silver images, broke up the other sculptures, and threw a large portion of them into the koond, and ever since the place has been deserted and called *Doob Koond*.

*Some objections to the Modern Style of official Hindustani.*—By F. S. GROWSE, M. A. Oxon. B. C. S.

[Received 23rd July, 1866.]

As the pages of the “Asiatic” have admitted an elaborate defence of the modern fashionable style of Urdu composition, I trust that a brief statement of some of the arguments on the opposite side of the question, will find equal toleration.

The Urdu champion has undoubtedly made the best of his case, but he appears to have misapprehended the object of the Hindi party, and therefore many of his arguments are directed against an imaginary opponent. With the possible exception of a few visionary enthusiasts, I am not aware that any one in the present day is prepared to advocate a return to Hindi pure and simple. Such a thing would be practically impossible, on account of the number of foreign words which have won for themselves a secure position in popular speech. I consider this to be really the valid reason, and attach no weight whatever to the alleged varieties of dialect; for I feel convinced that the language of the Prem Sagar, in which not the slightest taint of an alien element has been allowed, would be more

\* I fancy this refers to the paint on the images that still exists.

† Probably a Mussulman rival.

generally understood throughout the length and breadth of India, than any equally polished specimen of Urdu. This statement, indeed, may be called a mere *ipse dixit*, but its truth is susceptible of a very easy test. However, as I have already said, Hindi so absolutely pure and undefiled, finds few advocates; and there can be no doubt that the Baital Pachisi, where a judicious mixture of Persian terms has been admitted, would be much more easily and widely intelligible than the Prem Sagar.

The only foundation for the belief that Hindi is an arbitrary name for a group of vulgar dialects, which have little in common and could not be reduced to one standard, is the practice of the early Missionaries, each of whom set about compiling a dictionary for the district in which he happened to be placed. But if we compare these local glossaries together, we shall find that a very large proportion of the words occur equally in all. To test this statement, I take down a Panjabi dictionary which I have at hand, and open it at random: the first word at the top of the page is *palit*, filthy, which is Sanskrit, and the last word *par-nāni*, a maternal great grandmother, which is good Hindi; of the other forty-six words in the same page there are only nine which are at all peculiar, though there are several divergencies from the recognized mode of orthography. And the varieties, so far as I can judge, appear to be of two kinds: 1st, the most common of all natural objects are known by several designations, of which one will be most popular in this district, another in that; while the other names will remain in the back ground, perfectly well understood, though less frequently on the tongue. As an example of what I mean: a *tree* in Bengal proper is generally called *gáchh*, in the N. W. Provinces *per*, and in the Hills *bríksh*; but a native in any part of the Bengal presidency who did not know the meaning of *per* would be a phenomenon. 2nd, Agricultural implements, or rather the component parts of such implements, with the domestic articles of daily use, are known in different quarters of India by very different names. But for the most part these things, being suggested by the peculiar wants and habits of the district, have no foreign name whatever, and in superfine Urdu can only be expressed by a periphrasis. Local differences of these two kinds do not, in my opinion, at all impair the integrity of the language. But unfortunately a good Hindi dictionary

is up to the present day a complete desideratum; nothing of the kind has ever been attempted; and I should be delighted to see some Pandit come forward, with sufficient zeal, patriotism and learning, to undertake such a task; a dictionary, I mean, which would comprise all the words used by Tulsi Dás in the Rámáyana, by Chand the Bard of the last Hindu kings, by Bihári Dás the author of the Satsaiya, and the other classical Hindi poets. I am convinced that such a work would not only be of the greatest interest to a philologist, but would incontestably prove that Hindi is an independent language, elaborated by a series of able writers and guided by a definite standard, which from time to time has varied in degree, but never in character.

Having so far cleared the ground, I will proceed to defend the position taken up by those who protest against the continuance of the present *Kachahri boli*, and still more against its recognition as the literary language of the country. In the first place, it is a recent innovation, which had positively no existence whatever fifty or sixty years ago. Mr. Beames incidentally speaks of Urdu writers three or four centuries back, but I must confess that I have never heard of them. The Mahommedans subdued the country, but never succeeded in destroying the language of the conquered people, nor does it appear that they made the attempt. As late as Akbar's reign and for many years subsequently, the popular dialect of both classes was the same; and if a Musalmán took in hand to write on any subject of general interest especially if his taste led him to adopt a poetic form, his composition was couched in Hindi. Several of the poems in the *Sabhá Bilás* may be mentioned as specimens, in which the only Persian word that occurs is the name of the writer. If a more ambitious historical narrative were attempted, he discarded the vernacular altogether, and wrote in classical Persian, precisely in the same way as European scholars, till a very recent date, wrote all their more important works in Latin. Arabic too, was continued as the language of the law-courts, as Norman-French in England, simply as a matter of convenience to conform to the phraseology of the original codes; and this eventually was modified into Persian with the retention of a large proportion of Arabic words and phrases. Of course, as time passed on, many foreign words were incorporated into the popular dialect; even in the Rámáyana of Tulsi Dás we find at least two, *jawáb* and *bakshish*, and,

as I cannot speak positively with regard to so voluminous a poem, there may probably be a few others. But it appears to have been considered bad taste rather than otherwise in a professedly vernacular composition, to introduce many words of Persian or Arabic origin. At the beginning of the present century the proportion of foreign and native words had come to be about equal, in works composed by Mahomedan writers in a popular style. A new principle then came into operation, which checked the natural progress of development, and threatens to rob India of all it has hitherto acquired in the way of literature. The change to which I allude was the abolition of Persian as the language of the law-courts. Till that time official and popular language had been content to remain apart; now they were to coalesce. We all know what has been the result of this well-intentioned order: the *amla* had written nothing but Persian all their lives, and in fact could not trust themselves to write anything else; they acquiesced in the Government demand so far as to introduce the Hindustani inflexions into their pleadings, but the phraseology was preserved intact. This is the fortuitous origin of that wonderful jargon, which is now not satisfied with ruling the law-courts, but requires to be acknowledged as the standard of good taste throughout the whole of Hindustan; which has retained the verbosity of Persian, while sacrificing the elegance and simplicity of its grammatical construction, and has introduced the complex inversions of Hindi syntax, while discarding the terseness and vigour of its terminology. By all means let the language of the country be Urdu, that is to say the Urdu of thirty or forty years ago, having for its basis Hindi with a free admixture of all foreign words, for that is the form into which it had spontaneously developed, and eclecticism may be tolerated or even admired, while syncretism in art must be synonymous with failure.

2. Not to dwell further on its artificial origin, this Urdu dialect can never advance to the dignity of an independent language; and yet certainly India is too considerable a country to acquiesce quietly in the position of being, for literary purposes, merely a province of Persia. The great ambition of every Munshi now-a-days is to eliminate from his composition every Hindi word, no matter how far-fetched its Persian substitute may be. With regard to other languages he is not so particular, and will introduce English phrases with great

gusto, often with a singularly ludicrous effect. He only studies to conceal his Indian origin; yet, do what he can, he cannot get rid of those troublesome inflectional terminations and auxiliary verbs, and, after all his misapplied labour, the pedantic sentences, which nothing can induce him to call anything but Persian, remain hopelessly and unalterably Hindustáni. He has probably succeeded in making it unintelligible Hindustáni, but still Hindustáni it is and must remain, and no native of Iran could pronounce it to be more than some very provincial type of true Persian. Such a position appears to me highly undignified; while, on the other hand, if the Hindi basis were frankly recognized and worked upon, the result would be a genuine national inheritance. I will here give a few of the most common Hindi words which are banished from the Kachahris, and place opposite to them their fashionable substitutes.


<i>Hindi.</i>	<i>Foreign.</i>
Betá or larká, . . . . .	Pisar or walul.
Báp, . . . . .	Wálid.
Chándi, . . . . .	Nukrá.
Tel, . . . . .	Raughan.
Ghi or ghrit, . . . . .	Raughan-c-zard.
Gchuñ, . . . . .	Gandum.
Gáñw, . . . . .	Mauzá.
Brihaspati, . . . . .	Juma-rát.
Chori, . . . . .	Sirika.
Byáh, . . . . .	Izdiwáj.
Bakri, . . . . .	Gospand.
Len-den, . . . . .	Dál o sitad.
Sunár, . . . . .	Zargar.
Kúá, . . . . .	Cháh.
Nidán, . . . . .	Akhir-i-kár.
Kachha, . . . . .	Khám.
Alag, . . . . .	'Alahida.

The last word *alay* is of good Sanskrit descent, but I am sure nine-tenths of the Munshis look upon it as merely a vulgar corruption of '*aláhida*', in the same way as *nagich* is of *stazdik*. So far as the above list goes, and it might be indefinitely extended, all the words in the Hindi column appear to me, some from one reason, some from another,

to be decidedly preferable to their foreign substitutes. The only reason for displacing them is the insane desire of inventing a language for India with every Indian element eliminated. This principle is carried to such an extent, that if a foreign substitute cannot readily be found, the native word is dressed up in foreign fashion; thus for *chachera*, a perfectly regular derivative, we are presented with the mongrel malformation, *chachá-zád*. And even one step beyond this: a dead set is made against the unfortunate letter *j*, which, as the Hindi representative of *z*, is considered decidedly vulgar, and occasionally banished even from Persian words, where till the present day no *z* had ever been known to intrude. Thus we have *fauzdári* for *faujdári*. When this is the case, it is no wonder that the *z* should be exclusively adopted in those instances of not very unfrequent occurrence, where there is some authority for its alternative use. Thus we have *jánu*, perfectly good Sanskrit, and *zánu*, equally good Persian, for knee; or to take a word of every day occurrence, *zát* is no doubt unimpeachable Persian, but *játi* is the original Sanskrit, and therefore the proper form for retention in the language of India. Yet I feel sure that an ordinary munshi would shudder to say *ját*; though it stands to reason that, as caste prevails solely amongst Hindus, the popular word to denote it must be of home origin. *Zát* again is a word which stands by itself, without association or connection; while *ját* at once refers us for its explanation to the cognate forms, *jan*, *janm*, *janná*, &c.

3. The adoption of this Persian dialect as the language of the country involves the necessary abandonment of the Nágari character. With reference to its original purpose the Nágari alphabet is the most scientific that human ingenuity has ever elaborated, but it is utterly inadequate for the representation either of Arabic or Persian. On the other hand the Persian character, as ordinarily written, is almost equally destructive of Hindi phraseology; and it is interesting to watch the gradual inroads which it is making on vernacular speech. The court munshis, who, as a rule, have never read a page of any Hindi book, pronounce every word according to its Persian orthography, which in many cases is a very imperfect representative of the original Hindi form; and as they are considered the depositaries of learning, their example is imitated, the mistake is perpetuated, and



gradually penetrates through every class of society. For example, all Hindi words ending in an unaccented vowel which would be clearly marked in Nágari, lose their termination in Persian writing, where all the vowels, final or medial, are more or less obscured. Thus, *pati*, so frequent in proper names, as Nírp<sup>ti</sup>, Dhanpati, Brihashpati, is abbreviated into *pat*. Again, the Sanskrit *v* or *w* is generally corrupted by the defect of the Persian alphabet into *o*; thus we have *deo*, *Baldeo*, *deota* for *deva*, *Baldeva*, *devatá*. Hence too arises the uncouth word *Dooar* rendered familiar by the disturbances in Bhután, which, if correctly spelt, is only the common Hindi *dwár*. As for the short vowel *w*, it admits an alternative error, being either dropped altogether, or written with the long *wao*. The Sanskrit compound consonants again cannot be clearly indicated, and in consequence we get the corruption *kariya* for *kriyá* in the common phrase for funeral es, *kriyá karm*. It is highly desirable that some scheme should be started which would enable the two systems of writing to exercise a mutual check upon each other; the Nágari completing the deficiencies of the Persian, and the Persian acting as a short-hand auxiliary of the Nágari. And there would be no practical difficulty in such an arrangement, if only it were once clearly recognized that the vernacular is a composite language, in its essential structure Hindi, but in its component elements Hindi and Persian in equal proportion. The division of the vernacular into Hindi and Urdu was a most unfortunate invention of the munshis of the College of Fort William at the beginning of the present century, and has never been generally recognized by the natives. I do not think that any one, who had not been specially brought under English training, would dream of calling his native tongue Urdu; and, as I have before stated, Hindus and Musalmans alike, till very recent times, used one dialect for popular composition, though the Hindu, from early association and perhaps also from the nature of his subject, which would often be mythological, would naturally, though not inevitably nor uniformly, use more Sanskrit words, and the Musalmán, from the nature of his religion, more Persian words. It is now high time that these fanciful distinctions should be again merged into one, and the language of the country, according to universal analogy, be known by the name of Hindustáni. I cannot see any good to be gained by the retention of

the word Urdu, which certainly does not err on the side of self-laudation, being literally bazar *lingo*, and therefore, on its own shewing, unworthy to be brought into competition with Nágari, the refined and urbane.

If the language were once settled upon a composite basis, it could be expressed equally well by Persian or Nágari; and here I would make a suggestion, which I scarcely hope to see ever carried out, though I am convinced that it is perfectly practicable. I would reserve the Persian character for epistolary purposes, and records of transient interest; while I would have all permanent records and all Government printing in Nágari. It is notorious that any proper name, to which the clue has been lost, can never be deciphered with absolute certainty from a Persian document; and therefore such a style of writing is most inappropriate for the preservation of a record of rights; at the same time it is preeminently a running hand, and its great praise is its flowing elegance which it is impossible to imitate in print. On the other hand, Nágari, though slowly written, is clear and precise; and I believe all who have had any practical experience on the point will admit, that it is better adapted even than the Roman character for printing purposes, because the type is more durable. It may be urged against this suggestion that it would involve the necessity of all officials being able to read and write both Persian and Nágari, whereas now as a rule they are familiar only with the former. This is true, but then the language employed would be their own mother tongue, for the acquisition of which no special training would be required.

4. And this brings me naturally to my fourth point; which is, that the present *kachhari boli* is inconvenient, because it is foreign to all and unintelligible to many. And on a point of this kind, we, being ourselves foreigners, must not trust to preconceived notions: the deliberate judgment of one educated native is sufficient to upset all our theories. Some few days ago I came across a brief History of India, compiled by Bábu Siva Prasád and published by order of the local Government, called the Timira-násak (which by the way I may remark is, so far as I am competent to judge, a model of what the Indian vernacular should be, being elegant without pedantry and homely without vulgarity); in his preface the Author distinctly

deplores the fact that the language of the courts is not the language of the country. Similar statements may be found passim in the newspapers written and edited by English speaking natives. And it is by no means uncommon to find really well educated Hindus, who will readily admit that they most imperfectly understand and would be quite unable to write the dialect of the *kachahri* munshis. And as a further proof, the official translations of laws and circulars in this pseudo-vernacular are absolutely unintelligible, till they have been interpreted by some one who can compare them with the original English. No doubt there are several current law phrases, for which, as Mr. Beames says, it would now be difficult to find the Hindi equivalents, and I have no objection to their retention; I think, however, their number is not so great as is generally supposed, and should not be unnecessarily increased. For instance, *markúm-i-bála* or *mazkúr i-sadr* is the accepted phrase for *aforesaid*, but it would be incorrect to allege that there was no Hindi equivalent for it, since *upar ukta*, though now somewhat unfamiliar, is equally elegant and correct. I think too that Mr. Beames is scarcely fair in some points of his comparison between Hindi and Persian; *málum* and *mallab* are generally represented by some tense of the verbs *jánná* and *chúhná*; *tajwiz* in colloquial language is accurately expressed by *soch* and *bichár*, either separately or together, and judicially by *núrday*; *zarúr* is supplied by *cháhiye*; *mawáshi* by *pohe*. And I am certainly surprised to see him rank *jangal* amongst the foreign words, whereas it is in fact Sanskrit. Nor should I translate *shukhs* by *log*, but by *jan*, which, so far as my experience goes, is universally used by natives when talking amongst themselves, and is perfectly good Sanskrit, though the munshis, for some reason or other, have taken a dislike to it, probably because it begins with the letter *j*.

5. The Urdu of the period is not only unintelligible, but it perpetuates and confirms ignorance. It is so completely an alien form of speech, that in the case of those whom Government compels to employ it, the whole time available for education is spent in acquiring it; and the consequence is that, as a rule, these Urdu speakers are, in matters of general information, the most ignorant class in the community. In every other case the acquisition of a new language opens a new door of knowledge; but this artificial dialect has neither history

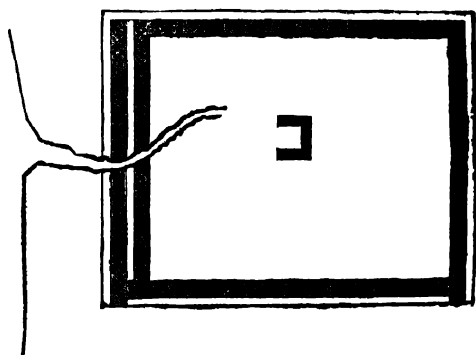
nor literature, unless we choose to class under the latter head the laws and circulars of the Government, which, it must be confessed, are rather dull reading for the masses.

In every way then I conclude that the encouragement of the style in which our munshis delight, is most strongly to be deprecated. It is a style of artificial and unnatural origin ; it is incapable of development into an independent national language, ; it robs the Hindus of their most glorious literary inheritance ; it is practically inconvenient, being unfamiliar even to the educated classes, unless they have been specially trained in it ; and it perpetuates ignorance by blotting out the records of earlier civilization, and, having no literature of its own, offers none in its place. The law has at all times and in all countries been somewhat pedantic in its utterances, and if it is inevitable, let it remain so ; but surely it is an unheard-of thing that legal phraseology should be constituted the type of polite literature.

*Description of the Chandrarakhagurh near Sashtance, Pergunnah Nyegur, Zillah Midnapore.—By W. J. HERSCHEL, Esq., B. C. S.*

[Received 2nd April, 1866.]

This very remarkable fort lies in the least known part of the district of Midnapore, in the south-west corner of it. I came upon it accidentally while returning from a tour into Morbhunj.



It lies near the boundary of the district in the midst of what, twenty years ago, was uninterrupted jungle, but what is now fast breaking up into cultivation. It is a nearly square patch of thick tangled

jungle lying pretty nearly north and south. Its longest line is east and west. It measures 1,050 yards in this direction, and from north to south 780 yards; so that the circumference is just two miles. It is built with unusual precision and completeness, differing in this from all the other forts I have seen in this district. A perfectly straight ditch on each side with a high bund inside; it has been almost filled up on the northern side and somewhat less so on the western, by the drainage of the country, which at this spot flows S. S. E. The western end of the ditch on the south side has been affected in the same way, the drainage turning southwards round the corner; the northern end of the eastern ditch has not suffered so, because the drainage sets *away from* that corner, and the ditch is not continuous round the corner. At this place, therefore, the eastern ditch is seen in perfection, and a very surprising work it is. It is cut through solid rock, except the upper two or three feet, and the sides are carefully sloped with the chisel. The rock is the com-

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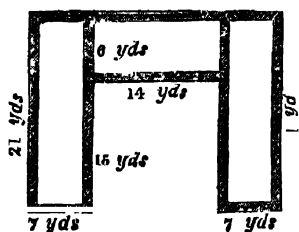
mon Midnapore laterite, not a hard stone to cut, and not a very good one to wear. It is liable to frequent clefts, and is seldom continuous in very large blocks. Consequently the sides of the ditch have fallen in a good deal, but there is ample to shew that when first finished, this ditch was a thoroughly workmanlike production. The soil was removed at the lips of it, and the rock carried up by two or three layers of stone. It is carried all down the eastern face, and turns the corner with almost modern precision, and continues along the southern face till it is silted up at the western end. From the character of the whole fort I am satisfied that, if cleared, the ditch would be found equally perfect all round; on those two faces it is scarcely filled up at all, though overhung with jungle and difficult to get along in consequence.

The bund on this eastern face is about 12 feet high and 50 broad. Within it is another equally fine and well-preserved ditch cut in the same way through the solid rock. This ditch does not go round the other three sides, nor can I say certainly that it goes all up the eastern side, but the natives say it does, and I went along some 100 yards of it, till it got so bearish-looking that the villagers would not go further with me.

About 15 yards within the edge of the second ditch rises the wall of the Fort which, as far as I could follow it, is continuous the whole way round. It was built of excellently chiselled stones of ordinary size, about four or five feet thick, and about 15 feet high, though there is not that height standing anywhere that I saw; 12 or 13 feet I measured. The care bestowed on this wall is most unusual. There is no attempt at extravagant massiness, but what was done was done thoroughly well. At different places are projecting bastions, simple square rooms of 20 feet each way, standing out from the line. They are quite square and clean at the angles. The villagers said there were two such on each side. I think there was also one at each corner.

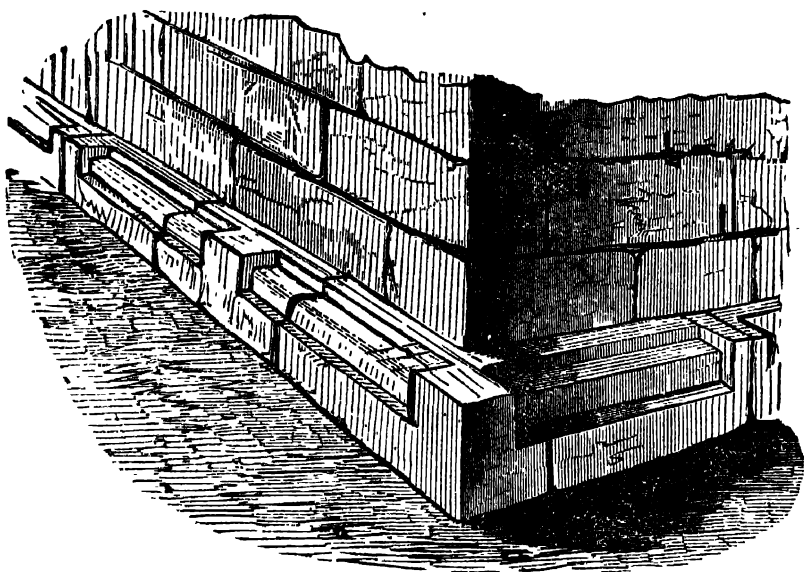
The wall is very much in ruins now, but there is plenty left to shew what a handsome thing it must have been. On the south side is a huge tower in ruins, but that is the work of the Trigonometrical Survey, I believe. It is quite out of character with the rest, certainly, by its very size.

The interior of the Fort presents nothing whatever to suggest habitation, except the one extraordinary building in the centre. In its simplicity, neatness and thoroughness, it harmonizes exactly with the exterior defences. I give a plan of it in the margin. It has but three

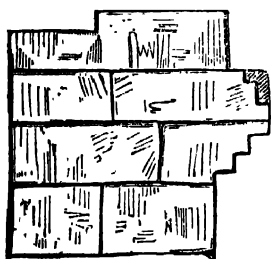


rooms, of the size shewn in the plan. The walls are of the same nicely cut laterite, about 3 feet thick, and 11 feet high from the true ground level to the top of the corning. It is not in very good preservation above the 8th foot from the ground, but so far almost perfect. The corning is

of the same simple character as the whole Fort, (of the shape shewn in the woodcut on page 184) and runs all round the whole of the three rooms. The upper half of the cornice is like the lower, reversed, but at regular intervals there are little square bosses as at the basement of the wall, which is ornamented in the same simple style, thus:—



These simple rectangular mouldings were the only ornaments or carvings I could detect on a very careful search throughout the whole fort. There is not a curved line in any stone in the whole work. The wall certainly ran up to the height which I have shewn in the sketch of the cornice. I cannot find any stone higher than that, and from the fact that three of the few stones left of that tier have a ledge in



them (as shewn in the margin) on the inner side of the wall, I suppose that the timbers of the roof rested on this tier. The curious part about the building is, that there is not, and never was, any door whatever. I examined the walls everywhere, and by the lines of the stones it is quite clear that it was deliberately intended that there should be no entrance into these rooms, whatever there might have been to the roof. The want of debris shews that there was no upper story. Nor is there any commu-

nication whatever between the three rooms. An entrance has been forced of course, since the place became a ruin, but the position of the stones at the place is still at this present moment such as to shew

that it is a forced entrance. There is not a vestige of anything that could have been a stone staircase. The interior of these three rooms is filled in a good deal with rubbish, shewing, I fancy, that there was a roof on them once.

The villagers all say that it has been a puzzle to them for generations why the Rajah Chandraketu, to whom the building of the fort was assigned, should have built his house so. They said, truly enough, that any force that could take the fort, would soon find its way into the house.

Rajah Chandraketu lived, say the rustics, in the Satya Yug, and was a favoured contemporary of Ráma, who on his march to Lanká stopped here, and found the Rájá engaged in pious worship, morning, noon and night. Before he touched food, he used to perform poojah to one thousand Sivas (Lings). Ráma halted at a place called Tapoban, now of considerable local celebrity as a spot for worship, and in a dream authorized Chandraketu to build a *mandir* to Siva and place in it a Ling having a thousand Murts—that by worshipping it he might, as a special privilege, obtain all the merit of one thousand acts of worship. I went to visit the Sahasra Ling, or rather I had gone there before, and had noticed that it was encircled with ten rows of marks like a continuous *m mmmm*. The old Burwei of the village told me, and I found, there were exactly 1,000 of these strokes, and on enquiry I was told the story of Chandraketu. The temple is old certainly, but my belief is that neither the fort nor the temple are more than two or three hundred years old. Perhaps the accompanying sketch of the *mandir* (vide plate XXI.) may determine the age of that building at least. It is split by roots and is in a very tottering state altogether. Several of the stones have come down from their places.

Of the family or history of Chandraketu not another word could be learnt. Nothing but the fort and the house have survived him, and judging by them, he must have been a man of simple habits and of rare singleness of purpose and tenacity. Why he should have defended the eastern side of his fort at such double expense I do not know. But it was a costly undertaking.

There is no mention of the fort in Bayley's MS. Notes of the Zillah.



*Notes on a Tour in Maunbhoom in 1864-65.—By Lieutenant-Colonel  
E. T. DALTON, Commissioner of Chota-Nagpore.*

[Received 16th October, 1865.]

In the district of Maunbhoom, we find two distinct types of architectural remains. Those that appear most ancient, and are said by the people to be so, are ascribed, traditionally and no doubt correctly, to a race called variously Serap, Serab, Serak, Srawaka, who were probably the earliest Aryan colonists in this part of India; as even the Bhumij, who of the existing population claim to be the oldest settlers and whose ancestors had not the skill to construct such monuments, declare that the first settlers of their race found these ruins in the forests that they cleared. We have the same tradition of early settlements of the Srawuks in the eastern parts of Singhbhoom, which were broken up by the warlike Hos or Lurka Coles. The Srawuks appear to have colonized along the banks of rivers, and we find their temple ruins on the banks of the Damodur, the Cossai and other streams. The Cossai is rich in architectural remains. Within a few miles of the station of Poorulia and near that river, are the ruins of an old settlement called Palma. This I have not seen, but Lieutenant R. C. Money has favoured me with a brief account of it. The principal temple is on a mound covered with stone and brick, the debris of buildings, through which many fine old peepul trees have pierced, and under their spreading branches the gods of the fallen temple have found shelter. In different places are sculptures of perfectly nude male figures, standing on pedestals and under canopies, with Egyptian looking head dresses, the arms hanging down straight by the sides, the hands turned in and touching the body near the knees. One of these images is larger than life. It is broken away from the slab on which it was cut, and the head, separated from the body, lies near. At the feet of each idol are two smaller figures with chowries in their hands, looking up at the principal figure, and on the pediment of each is an animal, differing. I have now seen several of these figures, and there can, I think, be no doubt that they are images of the "Tirthancaras" of the Jains, who are always thus figured naked or 'sky-clad,' each with its representative animal or symbol. Lieutenant Money

also observed a stone pillar set up perpendicularly, standing 12 feet high by  $1\frac{1}{2}$  feet square, with corners chamfered, making it an octagon ; and near this four more of the Tirthancaras are found. All about this temple mound are other mounds of cut stone and bricks, shewing that there must have been here, at a remote period, a numerous people far more advanced in civilization than the Bhoomi and Baori tribes who succeeded them. At the village of Churra near Poorulia, there are two very old stone temples called 'Deols' or 'Dewalas.' The only tradition regarding them is, that they and some large tanks in the vicinity were constructed by the Serawaks here called Seraks. They are built with roughly cut stone, without cement, on the *stone carpentry* principle. There were originally seven of these Deols. Five have fallen, and the fragments have been used in building houses in the village. The most perfect of the two that remain, is a tower terminating in a dome of horizontal courses of stone about 30 feet high, with a circular finial like a huge cog-wheel, and the remains of flag-roofed colonnades on both sides. The slabs forming the roof are great blocks of granite from 5 to 9 feet in length, 2 to  $2\frac{1}{2}$  in breadth and 1 foot thick. There is no carving about these temples, and no object of worship now in the shrines, but on some of the stones that are scattered about, tracings of the nude "Tirthancaras" are visible. There is another of these temples at Telkoopī on the Damodur ; and there is there an image still worshipped by the people in the neighbourhood, which they call *Birrup*. This image I have not seen, but it is probably intended for the 24th "Tirthancara," 'Vira' or Mahabira, the last Jina.

Some four miles south of the town of Jaipore on the right bank of the Cossai river, near the village of Boram, are three very imposing looking brick temples rising amidst heaps of debris of other ruins, roughly cut and uncut stones and bricks. Besides the mounds, on which these temples stand, there are other mounds all composed of similar debris and traces of enclosures, showing this to have been at one time a very important place. The most southern of the three temples is the largest. The tower rises from a base of 26 feet square. The chamber occupies only 9 feet square of this, and after about 9 feet of upright wall is pyramidal in form, the bricks in rows of first three, then two, and near the top one, gradually approaching, till the four sides meet. The

remainder of the tower is solid brick work throughout. Its height is about 60 feet, but the upper portion of it has fallen, and it is impossible to say how it was finished off. The bricks of which these temples are composed, some of them eighteen inches by twelve, and only two inches thick, look as if they were machine-made, so sharp are the edges, so smooth their surface, and so perfect their shape. They are very carefully laid throughout the mass of masonry, so closely fitting that it would be difficult to insert at the junction the blade of a knife. The entrance to all the temples faces the rising sun. The objects of worship, whatever they were, have disappeared from the fanes, but in the southern temple there is a stone gutter through the wall, terminating in a well-carved gargoyle for carrying off the water used in the ablution of the idol. The bricks used for ornamental friezes and cornices appear to have been carefully moulded for the purpose before they were burned; and the design, executed entirely of bricks thus moulded and put together, is, though very elaborate, wonderfully perfect and elegant as a whole; but in some places stucco has been added, and further ornamentation or more delicate tracery attempted in the stucco on the brick foundation, and this tracery, where it remains, is in wonderful preservation. The entrance to the temple is wide and lofty and arched like the interior, that is by the projection, till they meet, of bricks horizontally laid. Door, there appears no sign of. The fane must have been open to the world. The only animals I could discern in the ornamentation were geese, introduced in the scrolls: the goose is a Buddhist emblem.

The other temples are of similar design, but smaller size. In front of them I observed several pillars of stone, but I found no architraves, and the pillars are hardly long enough to have been the support of a covered porch in front of the fane. These three temples are all of the same type, and are no doubt correctly ascribed by the people to the "Srawaks" or Jains. I found indeed no Jain images on the spot, but about a mile to the south, the remains of a Hindoo temple in a grove was pointed out to me, and all the images from all the temples in the neighbourhood have been there collected. The grove temple was dedicated to Siva, but amongst the images were several nude figures like those already described, that were in all probability the 'Jinas' of the brick temple.

Near the brick temples I found, amongst a heap of ruins, a square stone crypt in which was a four-armed female figure finely carved in the style of the sculptures of Dulmi, to be presently described. This was worshipped by the women of the place under the name of 'Soshti.' In the grove there was a similar figure, and the other images of Hindoo gods found there, appeared to be of the same period. Another mound was pointed out to me about half a mile from the grove as a collection of ruins, but I did not go to it.

The temples of the Maunbhoom District described in a letter from Lieutenant Beavan, published in the Proceedings of the Asiatic Society for April last, are no doubt of the same Jain type. The colossal sculpture, described as worshipped by the villagers under the name of Bhiram, may be another image of the 24th Jina, "Vira;" at all events it is a "Tithanegara" not a Hindoo image.

From the notice of "Vira" in the IXth Vol. of the Asiatic Researches, article Jains, by Profr. Wilson, it appears that he flourished 500 or 600 years before Christ, and after he had adopted an ascetic life he is represented as traversing the country occupied by the "*Vajra Bhoomi*" and the *Suddhi Bhoomi*, who abused and beat him and shot at him with arrows and baited him with dogs, but he tranquilly went on his course, paying no heed to these annoyances. Now Maunbhoom is to this day the land of the *Bhoomi*, or Bhumij. They are a branch of the Moondah race, and were long the terror of the adjoining districts of Bengal. These were no doubt the "Vajra" the terrible "Bhoomi." The other portion of the population, who are not "Bhoomi," are called "Sudh" throughout Chota-Nagpore. It is not improbable that the shrines I have been describing, mark the course taken in his travels by the great saint "Vira," and were erected to his honour by the people whom his preaching had converted; but all these temples are in sight of *Mount Samaye* or Samat, that is the sacred hill from which 250 years before the days of Vira, the Jina Parswa or Parswanath is said to have obtained '*nirbāna*' or ultimate repose from the cares of a separate existence; and it may be that colonies of Jains had settled on the rivers in the jungle mehals before the appearance of Vira, and that Vira preached to men who had already been inaugurated into the mysteries of the Jain faith. The tradition of the Bhoomij and their kindred tribe, the Ho or Luika Coles of Singbhoom, that the Srawakas

occupied this country first, shews that the Jains are a very ancient sect. Their antiquity has been doubted in consequence of the modern appearance of their known temples, but those I have been describing as existing in Maunbhoom, are doubtless of great antiquity. In the regions that I have shewn were at one time a great seat of this sect, some colonies still remain. In 1863 I halted at a place called Jumpra, 12 miles from Poorulea, and was visited by some villagers who struck me as having a very respectable and intelligent appearance. They called themselves Sarawaks, and they prided themselves on the fact that under our Government not one of their community had ever been convicted of a heinous crime. They are represented as having great scruples against taking life. They must not eat till they have seen the sun, and they venerate Parswanath. There are several colonies of the same people in Chota-Nagpore proper, but they have not been there for more than seven generations, and they all say they originally came from Pachete. Contrasted with the Moondah or Cole race, they are distinguished by their fairer complexions, regular features and a peculiarity of wearing the hair in a knob rather high on the back of the head. They are enterprising, and generally manage to combine trade with agricultural pursuits, doing business both as farmers and money-lenders. The train of "Mahabira" is represented as consisting of "Sadhs," Sramanas and others, and lastly of 'Srawaks,' the laity and the most numerous class of all. The whole of the Jains are divided into "Yatis" and "Srawakas," clerical and lay, and as their *gochas* or family divisions include *Agurwals*, and *Oswals*, and Parswanath or Mount Samneya is revered by a numerous body of the wealthiest people in India. From Central India, thousands of these classes annually visit the hill, and their reverence for it is so great, that a pilgrim to the shrines must attend to no call of nature whilst his feet are on the mountain.

I must now turn to the antiquities of the Brahminical type which tradition ascribes, why I know not, to Vikramadit. The zemindar of one of the Maunbhoom jungle mehals, commonly called the Rajah of Patkome, claims to be a lineal descendant of some Vikramadit, and every third rajah of the line takes that name. The name of the present rajah is Sutrogonadyt, his father was Vikramadit, and his grandson will bear the same name, the son's name is Udayadit. It

is on the estate of the gentleman claiming such ancient lineage and noble ancestry that we find, on the banks of the Sobanrika river, near its confluence with the Kurkari, the remains of the ancient city of Dulmi. I was in hopes I should here find family annals that would have given some account of the ruins, but the rajah has none, and appears to have no reverence for the place. This makes one sceptical of his royal descent, and the probability is, that he is nothing more than a Hinduized Bhoomij. He calls himself a Kshetriya—an honour to which all the Jungle Mehal chiefs aspire, declaring either that they conquered the country from the 'Dasyas,' or were elected by them, or were miraculously produced amongst them. In regard to subjugation, the difficulty is, that their ancestor must, in each case, have done it single handed, as the chief is the only representative of the force used; but this difficulty the rajah of Patkome gets over by declaring that his race were specially created to rule, the Dasyas to be ruled.

The antiquities of Dulmi comprise the remains of an old fort, several large tanks, and the ruins of numerous temples dedicated to the worship of Siva and Parbutee, to the adoration of the Linga and other objects of Brahminical idolatry. Crossing to the left bank of the river, the first object that strikes you, is a colossal figure of Gunesh amidst a confused heap of cut stones. The poor fellow has tumbled off his pedestal and lost his legs in the fall. If he had had fair proportions, he would have stood 12 feet high, as his body measures six feet; but with such ridiculously short and thick legs as were assigned to him, he only stood 9 feet. His place was that of Janitor, and the heaps of stones near him, the remains of the river gate of the old city; and you can trace from it the remains of masonry walls that must have embraced a considerable area. A little hill overlooking the river near this place is covered with cut and carved stones, and occupying the place of honour in the foundation of what appears to have been the principal temples just here, is a Linga, 18 inches in diameter, protruding a foot and a half from the 'Argah' in which it is embedded. The Argah is circular and three feet in diameter. In a brick temple, near this shrine of Siva, there is a stand for an idol, but the idol, which it is said was an image of Vishnoo, has been removed. There were formerly, I am told, a great variety of sculptures at this place, but they are now scattered all over the country. The brick

temple is probably of more modern date than the stone buildings, as it is partly arched on the radiating principle. Near the river are two mounds formed of the debris of two or more fine temples. The altar piece of one was a ten-armed figure of Doorgah slaying the monster Mahisasoor. There are two groups of this subject, one greatly mutilated, the other in good preservation, the arms and weapons all perfect and sharp cut. There are here two elaborately carved door pieces of the entrance to the shrine. The ornamentation, cut in a very hard stone, is as sharp and clear as if it had but recently been turned out of the sculptor's hands. It is like the wooden carving of a picture frame, so minute and neat are the borders and scrolls. Near the other temple I found a large altar group representing, I believe, Kamadeva and his wife. They are represented seated lovingly side by side, and are in a good state of preservation.

Amongst the detached blocks were two figures having in alto-relievo the "Machowa" and "Cuchowa" Avatars of Vishnoo. The whole series of incarnations doubtless formed the chief external ornamentation of one of the temples. On a former occasion of visiting these ruins, I noticed here an image of Vishnoo *in propria persona*, with well-formed features, a highly decorated conical cap, jewelled, extensive ear-ornaments and a mannikin in his left hand; this image I did not observe on the last occasion. Not far from the temples is a stone image of a life-sized bull, Siva's Bull, which appears to have wandered from the shrine into the fields to graze. We next came to an extensive tank surrounded by a moat and ditch, but between the moat and the tank, there is a considerable space all round which was probably the site of houses, making this an entrenched *tank square*. In the centre of the tank there is a singular structure of stone, two small columns supporting a triple umbrella, from which the tank is called the "*Chatta pooker*." This indicates that the tank was dedicated to Indra, the king of heaven, as the trident on a post in most tanks shows that the blessing of Siva has been invoked on the work.

In the village of Dulni we have a collection of sculptures that have been removed from the ruins. There is a group of Vishnoo and Lakshmi, a single figure of Vishnoo, a smaller bull, and various other images. An uncle of the Rajah, a venerable looking old man, lives at Dulmi, but, strange to say, he could give me no in-

formation about the antiquities of the place. The people, though to this day worshipping Kalee and offering sacrifices to a clay image of her in a shed, utterly disregard the ancient shrines, and care not for the desecration or deportation of the idol. It is the same with similar remains of Brahminical worship all over the country. We see that it was established in places that are now the haunts of wild beasts or the abode of a race that know nothing of such worship, and we see by the destruction of the temples and mutilation of the images that equal zeal was displayed in uprooting, as in establishing, it. The destructive agency is generally supposed to have been put in action by the Mahomedan power, but I do not understand, if this were so, how it is that some tradition regarding the destruction is not retained. We may associate some of these temples with the hermits, rishis or sages of the ancient days of Aryan progress;—attempts made to establish religious colonies amongst the yet unsubdued aborigines. It would appear that even in the days of the Ramayun the aborigines of this part of the country were called Kols. In the Ramayun they are alluded to as fierce savages in a conversation between Seeta and her mother-in-law, wherein the latter enumerates the various difficulties Seeta would have to encounter if she accompanied Ram in his progress south.\* ‘The Ramayun,’ says Lassen, ‘contains the narrative of the first attempts of the Aryans to extend themselves to the south by conquest, but it presupposes the peaceable extension of the Brahminical missions in the same direction as having taken place still earlier. Ram, when he arrives at the south of the Vindya range, finds there the sage Agastya by whom the southern regions had been rendered safe and accessible. The Rakshasas, who are represented as disturbing the sacrifices and devouring the priests, signify here, as often elsewhere, merely the savage tribes which placed themselves in hostile opposition to the Brahminical institutions.’† The Ramayun depicts the Dasyas as infesting the hermitages or settlements of the Aryans, as obstructing their sacred rites, as enemies of the Brahmins, &c. It is true we do not hear that in these early days the worship of Siva had been established, but the Hindoos of the Pooranic times were not less zealous in proselytizing, and may have followed the same system of pushing forward

\* From Muir's Sanskrit Texts, Part II. page 425.

† From the same, page 435.



religious settlements amongst the unsubdued *Dasyas*. This would account for the Brahminical ruins, mostly dedicated to the worship of Siva, scattered about the wild regions of this Province, some in picturesque secluded spots that a hermit would delight in, others in connection with fortified cities, all now deserted. We may conceive that these colonies, gradually assuming a more aggressive policy, were, after severe struggles, finally extirpated by the progenitors of the Kols, Bhoomi and Moondah of the present day; that the aborigines thus maintained their independence and their autonomy, but that from a feeling of lingering admiration for the superior intelligence, higher civilization and God-like beauty of the unsuccessful invaders, they retained some amongst them as their guides and instructors, and it may be, in some instances, from the remnant thus retained, elected their chief. We might thus account for the Aryan features and Brahminical predilections of some of the chiefs whom we find ruling an alien people without any evidence that they had by conquest attained that position.

The District of Maunbhoom is entirely composed of the estates formerly known as Jungle Mehals. The great proportion of the agricultural population are of the Bhoomij tribe who, as they speak the same language, have the same ceremonies, feasts and customs as the Moondahs of Chota-Nagpore and also intermarry with them, are, without doubt, of the same origin. Though in many places partially Hindooized, they retain the great festivals of their race, when both sexes join in the feast and the dance. The chiefs, who, as I have stated, all aspire to be Kshetriyas, have each his tradition regarding his accession to power. These are generally fables devised by the Brahmins, and they may thank me for having given them a method of claiming an Aryan descent without having recourse to them.

The Rajah of Pachete is lord of half the district, and several petty rajahs with whom separate settlements were made, formerly acknowledged him as Suzerain. These petty rajahs and others, called Jagheerdars, claim to be the descendants of the chiefs of the confederacy who made the first Rajah of Pachete. The fable framed for this family is that a noble lady of the Kshetriya race, on her way from Daranugger to Juggernath, was delivered of a male child under a hill near Jhaldah, which, it appears, she incontinently abandoned and proceeded on her way. The child was found by the people protected by,

and deriving nourishment from, a cow. It was taken care of and eventually made Rajah of Sikurbhoom or Pachete, and the present Rajah is, I think, the 52nd in descent from this foundling.

A rock near the town of Pachete is pointed as the identical cow that nourished the Prince, and whenever a Rajah of Pachete dies, it drops a stone which rolls down the hill. A regular establishment is maintained for the worship of this cow.

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*Note on a Copper plate Inscription from Sambhalpur.—*  
*By Bābu RĀJENDRĀLĀLA MITRA.*

[Received 7th December, 1864.]

The subjoined is the translation of a copper plate inscription lately presented to the Society by Lieut. G. Bowie of the Police Corps. It records the gift of a village named Cñullandaraka in the district of Tundaraka to certain learned Brāhmanas of the Kausika gotra. The name of the donor was Śrī Mahāsudevarāja. Who he was is not mentioned, nor is any regal title assigned to him, but the epithets used, show that he was a king or chief of some consequence. The patent alludes to a place named Sarabhapura, which the donor had conquered. It was probably the ancient name of Sambhalpur. Originally the document was inscribed on three tablets of copper, of which the last is not now forthcoming. Of the remaining plates, each of which measures  $6\frac{1}{2}'' \times 3\frac{1}{3}''$  inches, the first is inscribed on one, and the second on both sides. The characters used are of the Narbadda type of the 7 century, very similar to that of the Seonī plates noticed by Prinsep (ante Vol. V. p. 726) but a few of the letters are peculiar, the most aberrant being the *kh*, *ñ*, *ṇ*, *t*, *bh* and *l*. The vowel mark for *o* in *mo* is curiously given with an *e* on top and a *u* at foot. The loss of the date, which probably had been given in the third plate, and the absence of the donor's genealogy, deprives the record of all historical interest.

*Translation of a Tāmra Śāsana from Sambhalpur.*

Greeting! Śrī Mahāsudevarāja, whose two feet are bathed by the ocean of light shed from the topmost jewels on the crowns of valiant

chiefs coming from Sarabhapura,—who has caused the parted hair of the wives of his enemies to be dishevelled,—who is the bestower of wealth, land and kine,—who is a staunch follower of Vishṇu (Bhāgavata),—and who devoutly reflects on the feet of his parents,—to the householders of Chullandāraka which is situated in (the district of) Tandaraka, thus addresseth, “Be it known unto ye, that this village, which is to secure celestial pleasures for me, has been, for the period of the duration of that earth, whose impenetrable darkness is dispelled by the light of the sun, the moon and the stars, along with all its mines and resources, unencumbered by lawsuits and aboriginal claims,\* and free of all taxation, for the promotion of the virtue of my parents and myself, as well as of the estate and of the royal race, with our consent, by water and this copper-plate patent, dedicated to Trisaha Sravidyā Bhāshkara Swāmī, Prabhākara Swāmī, Barbbari Swāmī, Bodha Swāmī, Datta Swāmī, Vishṇu Swāmī, Phalgu Swāmī, Swāmikīrti Swāmī, and Saṅkara Swāmī, all of the Kausika gotra. Knowing this, may you remain obedient to their orders, and, rendering them a due share of the produce, live in happiness and prosperity.” For future kings is this advice given. Those who know ancient religion best, declare that the maintenance of gifts (made by others) is more virtuous than beneficence. Hence the inclination of future generations can alone protect this land presented to Brāhman of pure lineage and high Vedic knowledge. Therefore this gift should be preserved by you. These verses of Vyāsa are here appropriate; “gold was the first born of Agni, Vaishṇavas the son of Surya”—

*First plate.*

- (१) स्वस्तिशरभपुरादिकमोपनतसामन्तमुकुटचूडामणिप्रभाप्र-
- (२) सेकाम्बुधैतप्पादयुगलो रिपुविनासिनोसीमन्तोद्धरणहेतुर्वसु
- (३) वसुधागोप्रदः परमभागवतो मातापितृपादानुध्यातश्श्रीमहासुदे
- (४) वराजः तुण्डरकभुक्तीयचुल्लण्डरके प्रतिवासिकुटुम्बिनस्स
- (५) मात्स्यायति विदितमस्तु वो यथायं ग्रामः चिदश्रपतिसदनसुख
- (६) प्रतिष्ठाकरो यावद्रविश्रिताराकिरणप्रतिहतघोरान्धकारं ज

\* The original is doubtful. The word used is, *avālabhaṭaprávedya*;—a “not” added “lawsuit” *bhaṭa* “barbarian” or “aborigines” and *právedya* “claims.”

† The *Upadhāniya* is in the original, put on the top of the following letter.

*Second plate, first side.*

- (१) गदवतिष्ठते तावदुपभोग्यस्त्रिनिधिस्रोपनिधिरवादभटप्रद्यवो
- (२) सर्व्वकरविसर्जितः राज्यमहावीरायकुलैः मातापित्रोरात्मनश्चपु
- (३) ण्याभिरुद्धये उदकपूर्व्व\*कोशिकसगोत्रत्रिसहस्रविद्यभास्करस्त्रामि
- (४) प्रभाकरस्त्रामिबर्ज्जस्त्रिस्त्रामिबोदस्त्रामिदत्तस्त्रामिविष्णुस्त्रामि
- (५) फल्गुस्त्रामिस्त्रामिकीर्त्तिस्त्रामिशङ्करस्त्रामिनां तांशासनेवातिष्ठ
- (६) यो भूत्वास्माभिरनुमोदितः ते यूयमेवमुपलभ्यैषामाद्या श्रव

*Second plate, second side.*

- (१) णविधेया भूत्वा यथोचितभोगभागमुपनयन्तः सुखं प्रतिवक्ष्यथ
- (२) भविष्यतश्च भूमिपाननुदर्शयति दानाद्विशिष्टमनुपालनजं पु
- (३) राणे धर्म्मं सुनिश्चितधियः प्रवदन्ति धर्म्मं तस्मै द्विजाय सुवि
- (४) शुद्धकुलश्रुताय दत्तां भुवं भवभुवो मतिरेव गोप्तुः तद्भवद्भि
- (५) रप्येषा दत्तिरनुपालयितव्या व्यासगीतांश्चात्र स्त्रोक्तानुदाहर-
- (६) न्ति अमेरपत्यं प्रथमं सुवर्ष्मं भूद्वैष्णवं सूर्यसुता

#### LITERARY INTELLIGENCE.

Kavi Harichand Kunje of Bombay has lately brought ont an edition of the *Saṅkshēpa Saṅkarajaya* of Mādhaba Achārya with a commentary by Dhanapati Sūrī, entitled "The Dīpāṇḍima." The text is in verse and contains, in 16 cantos, a poetical account of the life of Saṅkara Achārya. The first canto gives an introduction; the 2nd, an account of the birth of Saṅkara; the 3rd, a conversation of the gods with S'iva in which the latter promises to appear in flesh as Saṅkara; the 4th, a description of the boyhood of Saṅkara; the 5th, his assumption of asceticism or Saṅnyāsa; the 6th, the extent of his learning; the 7th, an account of the Vedānta Darsana; the 8th and the 9th, the polemics of Saṅkara with Maṇḍana Misra and his wife Saraswatī; the 10th narrates a story about the life of Saṅkara entering the dead body of a king in order to enjoy the society of his wife; the 11th contains the substance of his disputations with Ugra Bhairava; the 12th, an account of his taking Hastāmalaka and others as his disciples; the 13th, his teaching of the Ve-

\* Probably a misincision for को.

† ताच recte.

danta system of philosophy; the 14th, his conversation with Padmapáda, on pilgrimage; the 15th, his disputations with all the great scholars of India; and the 16th, his last illness, his travels in Kashmir, Badarikásrama, Kédára and elsewhere, his disputations and teachings there, and his final departure from the earth. Although it does not give so good an account of the different sects prevalent in India during the time of Sañkara and of their dogmas, as the prose work of Anantánandagiri now being printed in the new series of the Bibliotheca Indica, it was largely used by the late Professor Wilson in compiling his "Religious Sects of the Hindus." The work is tolerably well printed, but, like most works issued from the native press, it is not edited.

Parasuráma Purka of the same city has published a short treatise by Ananda Swámi, entitled *S'áiva Sudhákara*. It is a manual on the worship of S'iva. A similar manual on the worship of Vishnu and named *Náráyana Sára Sangraha*, has been published by one Shatári Dása, a Gour Brahman of Bombay. Both are lithographed in the *pothi* form and comprise 50 and 32 folia respectively.

Professor Weber of Berlin has sent to press an essay on the *Bhagavati Sutra* of the Jains, in the introduction to which he has given an elaborate dissertation on the Mágadhi of that curious work.

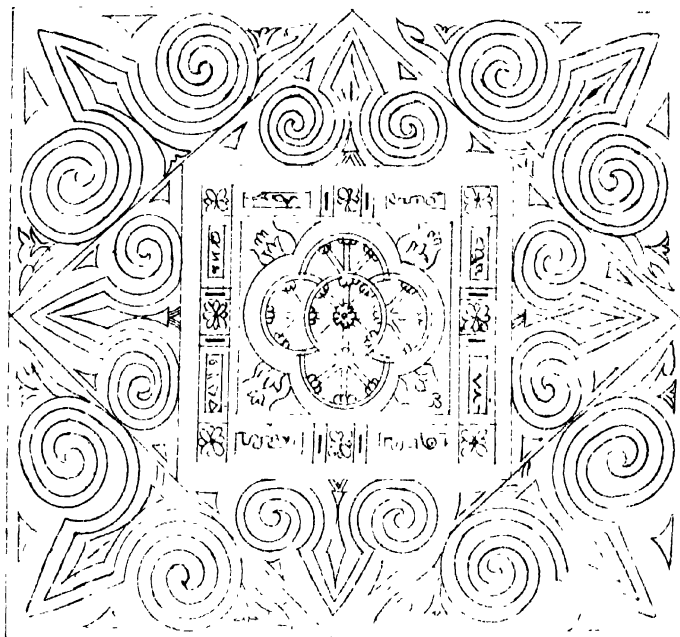
The following is an extract from a letter, dated 13th September, 1865, from Professor Holmboe of Christiania, containing notices of two interesting papers published by him in the *Saerskilt Aftrykt af Vid. Selskab Forhandlinger* for 1864.

"On yellow and red earth in ancient barrows. J'y ai démontré, que dans des tertres sépulcrales de Scandinavie on a trouvé quelquefois des quantités de terre jaune ou rouge, partie dans des vases, partie hors d'eux. J'y ai comparé la trouvaille de minium (sindur) dans quelques topes de l' Afghánistán; et hasardé la conjecture, qu' on a voulu honorer les défunts par l'insertion de la couleur, jaune ou rouge—les couleurs solennelles des religieux Bouddhistes; comme aussi le samghati de Bouddha selon la légende était rouge.

2. Sur une suite d'anciens poids trouvés dans un tombeau on voit, que dans une partie de Norvège, comme en Suède on subdivisait l'Ortug en huit parties (Peningar), justement comme en Inde on subdivisait le Kurrho ou Tola (égal á l' Ortug de Scandinavie) en huit parties."

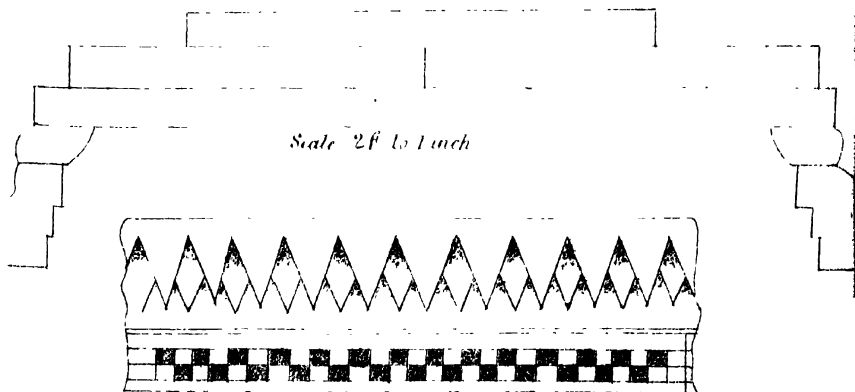
BUDDHIST VIHAR-RAJ GHAUT FORT.

CEILING.



Scale 2 ft to 1 inch

SECTION OF CEILING

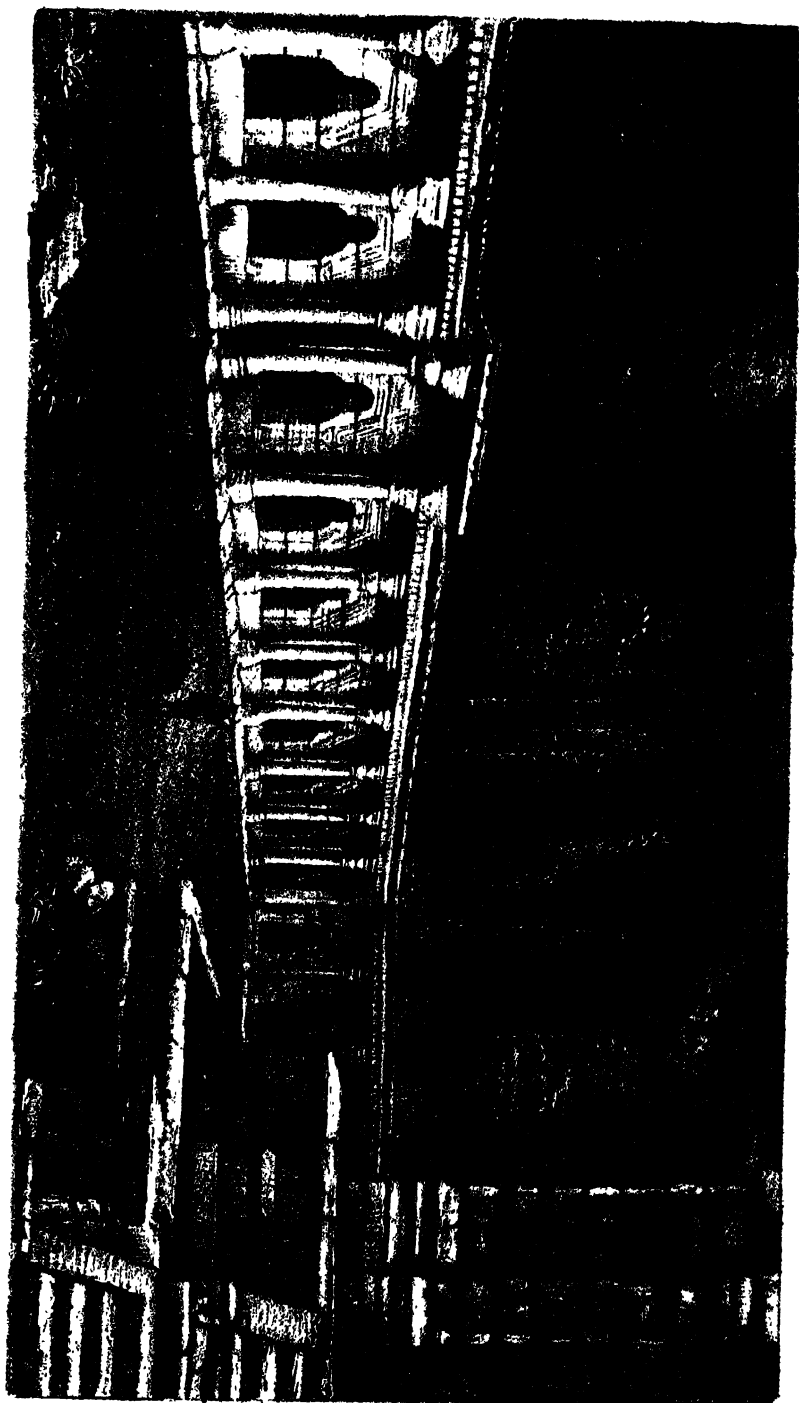


Scale 1 inch to 1 ft

SECTION OF ROOF SLAB

showing side ornamentation.









# JOURNAL OF THE ASIATIC SOCIETY.

PART I.—HISTORY, LITERATURE, &c.

N<sup>o</sup>. IV.—1866.

*Notes on the History and Topography of the Ancient Cities of Delhi.*

*By C. J. CAMPBELL, Esq., C. E.*

Received 11th August, 1866.

Save a brief notice in Fergusson's *Hand-Book of Architecture*, the only reliable information that we possess regarding the ancient cities of Delhi, is to be found in the valuable contributions of Colonel Lewis, Mr. Cope, and General Cunningham to the *Journal of the Asiatic Society*.

My object in writing down the following notes has been, to supplement their descriptions by such additional information as I have been able to collect during a residence of more than six years in Delhi, in which I have been favoured with more than ordinary opportunities for studying the subject. I shall commence with the *Musjid Kutb-ul-Islam* which, from its age and from the circumstances connected with its construction, is by far the most interesting building in Delhi. In describing it, General Cunningham has fallen into a slight error; he attributes the whole of the additions, save only the *Alái Durwáza*, to *Shamsh-u-din Altamsh*; whereas we know from history, that that monarch only constructed a small portion of them, the grand extension towards the east having been erected by *Ala-u-din* in the beginning of the 14th century.

The portions built by these kings, as also the original work of *Kutb-ud-din Eibeg*, can still be distinctly traced, and I shall now proceed

to describe them in detail: first premising that there are certain portions which have been disarranged, or have otherwise suffered, during the restorations effected at various times; and the evidence of which must therefore be received with caution. These are: first, the colonnade and back wall between *a* and *b* (see Plate XXII.) which, with a strange want of discrimination, were reconstructed\* by Major R. Smith from materials which had originally formed portion of the colonnade at H;—secondly, the windows in Kutb-ud-din's work, few of which escaped re-arrangement at the same time,—and, thirdly, the central grand Arch where Captain Wickham has inserted an impost for which the adjoining one afforded no warrant.

Let us commence with the pillars in the colonnades. In Kutb-ud-din's work† these are of *red and yellow sandstone*, as are also the lintels and domed roofs over them: they differ in height, in thickness, in the number of parts of which they are composed, and in the ornamentation with which they are covered, whilst the spaces between each pillar differ throughout varying between  $5\frac{1}{2}$  feet,  $8\frac{1}{2}$  feet, and every imaginable intermediate number; thus proving that they are the remains of older buildings worked up into a new design.

In the colonnades at E, F, and H, (Altamsh's work,) the pillars‡ are of *granite* neatly carved:—they also are of different lengths, and the spaces between vary like the last, ranging between  $5\frac{1}{2}$  and 8 feet. They are much weathered and discoloured, which marks their antiquity, the whole proving that they too are old materials worked up again, but that they are not from the same source as those in Kutb-ud-din's work. In the colonnade at F, G, the pillars§ are also of granite, but clean and sharp as though fresh from the mason's chisel: they are plainly carved, are uniform in size, and are spaced at an equal distance apart of  $8\frac{1}{2}$  feet.|| This shews that they were made expressly for the work in which they now stand.

\* Major Smith in his report admits that he re-arranged this colonnade, and the most superficial examination will serve to shew that the pillars belonged to Altamsh's work.

† This is confirmed by the statement of one Siwa Ram (now deceased) who, as head mason of Government works at Delhi for nearly forty years, had much to do with these restorations; and who assured me that this was the case.

‡ See figs. 1 to 4, plate XXIII.

§ See fig. 8, plate XXIII.

§ See fig. 9, plate XXIII.

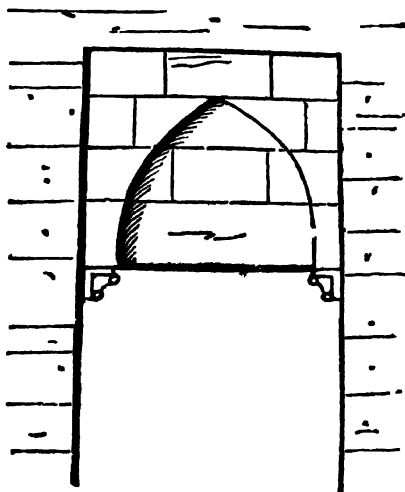
|| Some are  $8\frac{1}{2}$  feet only.

Next as regards the enclosure walls. At B, the original angle of Kutb-ud-din's mosque is plainly discernible, and there is so great a difference in the style and quality of the masonry, that we can easily see that the north wing is a later addition.

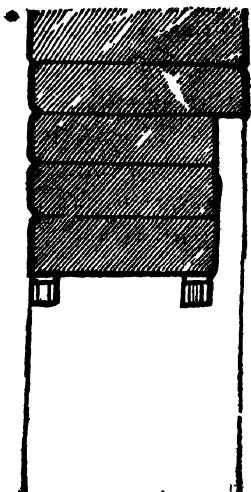
It is also evident that this latter is of the same date as the wall between E and F, a comparison of which with the wall between F and G, shews the following marked differences. In the first the stones are discoloured and weathered,—the remains of some older building—and a plain string course runs along the wall just below the springing level of the window arches:—in the second, the stones are clean, sharp and grey, evidently cut new for the work, and the string course is omitted: the junction of the two styles at F is clearly distinguishable. But the difference of style is most distinctly marked in the windows, those in E, F, are covered with lintels resting on corbels, a false horizontal arch being recessed on the outer face: those in F, G, have regular arches, with true voussoirs, running through the whole thickness of the wall.

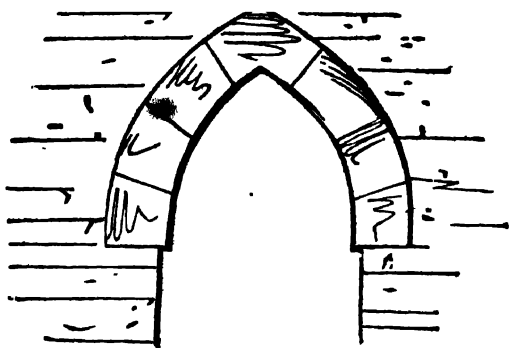
*Sketch of Windows in E, F.*

Elevation.



Section.



*Sketch of Windows in F, G.*

The absence of voussoirs proves that the former dates from the early part of the 13th century ; whilst the date of the latter is determined by the red sandstone gratings fixed in the windows, which are identical in style with those in the Alái Durwáza ; into the walls of which at F, G, they have been carefully bonded from the very first, the whole forming one work, the date of which is fixed by the inscriptions on the gateway.

Lastly, the great arches are quite different in style,\* the piers in the central portion are square on plan, they have no niches in them, and the jambs are left uncut ; the arches have no impost† and are slightly ogee in the head ; and the ornamentation is simple, monotonous, and decidedly Hindu in character.

The side arches are on a lower level than the central ones ; the piers have arched niches ; and their jambs are cut into octagons and ballusters : the arch springs from a cap to one of these latter, which does duty as an impost, and it is pointed in the head and not ogee, whilst the ornament is later in date and more elaborate. (Fig. 6 and 7.)

All these peculiarities are repeated in Altamsh's tomb, and we are thus enabled to fix the date of its construction. It must have been erected by the same builders and at the same time as the north and south wings of the mosque, *i. e.* in the king's own lifetime, and not

\* See Fig. 5, plate XXIII.

† As I have said before, the impost to the centremost is an addition of Captain Wickham's. It should be removed.

during the reigns of his two immediate successors, as has been surmised by some writers, who forget how short and troubled was the rule both of **Bakn-ud-din Firuz** and of his sister **Razia Begum**.

We are thus still able to trace the work of each of the three builders of the great mosque. The original building of **Kutb-ud-din** is shaded with detached lines on the annexed plan (Plate XXII.): it was an oblong enclosure,  $142\frac{1}{2}$  feet by  $108\frac{1}{2}$  feet inside dimensions, with the famous iron pillar towards its west end; behind which, and immediately in front of the western colonnade, towered five gigantic arches. These were a mere mask, carrying no roof, that of the chamber behind being at the same level as the other portions of the colonnade; as may be seen from the few remains of it which still exist. **Shamsh-ud-din Altamsh**, some years later, added the north and south wings (shaded with dots on plan), thus converting it into a triple mosque.

These wings were similar in design to the central portion; a mask of three large arches in front of a pillared chamber, with a colonnade enclosing an open space 353 feet broad, but only 200 feet deep, the eastern wall having run along the line *d, d, d*. Not a trace of this is now to be seen; but the back columns at *H* shew signs of having been formerly built into it, and this, with other features, tends to prove that these pillars are standing "in situ."

In A. D. 1310, **Alaudin** commenced his grand extension (shaded with long lines on plan) which, if completed, would have made the inner enclosure 355 feet broad and 372 feet deep. He built the superb **Alai Durwaza** as a grand entrance from the city side; and to the north, near his palace in **Siri**, began a second and greater minar. General **Cunningham** is of opinion that this latter was stopped in 1312; this was probably the case, and it may with safety be surmised that, like the minar, the mosque was never completed.

Before quitting the subject, the difference of style between **Ala-ud-din's** work and that of **Kutb-ud-din** and **Altamsh** requires a slight notice. We know from **Ferishta**, that the former monarch had a large body of skilled artificers attached to his household, for whom he found constant employment; and these must have been well trained in the principles of Saracenic architecture and construction; for there is no very noticeable difference between their work and that of contemporary builders in other Mahomedan countries. But with the two

first Pathan kings it was different ; and there is a strange mingling of Saracenic design with Hindu construction, that is not a little curious. Thus, the idea of the Kutb Minar is borrowed from those still standing on the plain of Ghazni :—the great arches were of Mahommedan design, and so too was the square massive tomb of Altamsh. The details of the ornamentation are also more decidedly Saracenic than is generally supposed ; thus the curious battlements over the second and third doorways in the minar are almost exact copies of those in the mosque of Kalaon at Cairo, (built A. D. 1284), whilst the honey-comb work under the balconies of the same structure, differs in no perceptible degree from that in the Alhambra at Granada. But, side by side with much that is purely Saracenic, we find many details that are indisputably Hindu in character, as, for instance, the bell and chaplet ornament ; the wheel roses ; the lozenge inside an oblong pannel ; and the scroll tracery on Kutb-ud-din's arches ; whilst the arches are all *horizontal* and of purely Hindu construction.

The explanation of this phenomenon is a simple one :—the early Mahommedan settlers were rude soldiers, too much occupied with hard fighting to settle down into artizans ; their leaders might find leisure to plan and design, but for the actual execution of their projects they were compelled to depend upon the conquered people, who, in carrying out their orders, introduced many of those details with which the practice of centuries had familiarised them.

#### KUTB MINAR.

General Cunningham has written so fully and carefully on the subject of the Mahommedan origin of this column, that a few brief notes are all that need be added here. That Kutb-ud-din designed and commenced it, is generally considered to be proved by the occurrence in the lower story of Mahammad Ghori's name, (shewing that it was begun in his lifetime, and therefore in that of Kutb-ud-din) ; and also from its bearing the name of this latter monarch. Its position with regard to Kutb-ud-din and Altamsh's work, may be adduced in favour of this view.

It stands symmetrically enough as regards the former, opposite to and just outside the south-east corner, but with the colonnades of Altamsh it fits in altogether awry, standing just 11 feet outside the

south one, and about 8 feet *inside* the east one. Had Altamsh designed it, he would surely have placed it more symmetrically. As it now stands, it is evident that the position of his colonnades was regulated by some considerations\* which we cannot now determine, and that the Minar, which was already in existence, had to fit in with them as best it might.

As regards the age of the various portions as they now stand, the most superficial examination will shew that the three lower stories, whilst they are identical in style and construction with the work of Altamsh, differ completely in both particulars from the two uppermost ones. In the former, except the outer casing which is of sandstone (no marble being used anywhere), the walls are of cut granite; so too are the central pillar and the steps, which latter are not plain lintel blocks, but are carried upon corbels projecting from the walls. All the doorways and openings have Hindu horizontal arches; the sandstone is old and discoloured, and the ornamentation dates from Altamsh and Kutb-ud-din's time. In the two upper stories all is changed; the walls, steps and central pillar are of bright red sandstone, white marble being introduced into the outer face, the steps have no corbels, the arches have true voussoirs, and the ornamentation is identical with what we find prevalent in the latter half of the 14th century. We are thus warranted in assuming that these two stories were *newly designed* and built by Firuz Shah in A. D. 1368.

General Cunningham agrees as far as the fifth story is concerned, but thinks the fourth is original, as the inscription over the doorway dates from the reign of Altamsh. But this doorway is exactly similar to the one above; it is built of similar stone, is of a similar shape, and, like it, has true voussoirs; it is clear therefore that the old tablet of Altamsh has been simply re-built into the new work of Firuz Shah.

As regards the work executed in A. D. 1503, by Sikandar Shah Lodi, I can find no traces of it; and presume therefore that it consisted of *bonâ fide* repairs, such as those undertaken by the British Government forty years ago.

\* Probably owing to the nature of the site, which falls rapidly to the south-east from about the point marked E on the plan.



## LALKOTE.

General Cunningham has endeavoured to identify the grey granite walls of the large citadel that lies around the Kutb mosque and minar with the Lalkote, or "Red fort," constructed by Anang Pāl in A. D. 1060. Now, as he himself admits, no Mahomedan writer alludes to any *citadel*\* of that name, either when describing the capture of the city, or on any other subsequent occasion. On the contrary, Zia Barni speaks of the final assault as being made through the Ghazni gate of Rai Pithora's fort, which we know to have been a distinct place from Lalkote; and the possession of which evidently implied the capture of the whole city. Had Lalkote been a strong citadel, as Cunningham supposes, a subsequent attack upon it would doubtless have been necessary, in order to secure quiet possession of the place, and this second assault would have been recorded in history.

We know that the palace in which Rai Pithora resided, when the city was captured, stood upon the site of the Kutb-ul Islam mosque, to make room for which it was removed. I am decidedly of opinion that *this* was the building known among the Hindus as Lalkote, and that only on this supposition can the total disappearance of the name from history be explained. The work of Anang Pāl would thus be but a small one, containing probably the one temple built by that monarch and the famous Iron Lath; and it would derive its name, like the Lall Mahal and Ruby Palaces of a later date, from the red sandstone of which it was built, and which was afterwards worked up into the great arches, the Kutb Minar, and the tomb of Altamsh.

## SIRI AND THE SITE OF ALA-U-DIN'S ENTRENCHMENT.

I now pass to the consideration of General Cunningham's arguments in favour of identifying Siri and the site of Ala-u-din's entrenchment with the ruined city of Shahpoor, and his rejection of the theory, upheld by Lewis, Cope and Burgess, that the first of these was merely the name of the citadel around the Kutb.

Neither Ferishta nor any other writer makes mention of Shahpoor. As regards the origin of the other three places, we learn: first, that

\* The prohibition against beating kettle drums in Lalkote mentioned by General Cunningham is merely a regulation of the *palace* in which Kutb-ud-din took up his first abode.

Ala-u-din built a fort, or city, called Siri: secondly, that he rebuilt the walls of the ancient citadel of Delhi; and, thirdly, that he built a palace\* on the spot where he intrenched himself during the Mogul invasion of A. D. 1303.

There is much that is plausible in General Cunningham's arguments, but a little consideration reveals their weakness, which, indeed, appears at times on the very surface, as, for instance, where he admits (page lxix.) that the present walls of the Kutb citadel were rebuilt by Ala-u-din, although he has already described them as the work of Anang Pâl:—and again, at page lxviii., where he confounds the palace built on the site of Ala-u-din's entrenchment with the famous Kasr Hazâr Situn; forgetting that this latter was commenced by Nasir-u-din Mahmud, and completed by Ghias-u-din Balban at least fifty years before the Mogul invasion.†

Let us first endeavour to ascertain, from their style and characteristics, the age of the present ruins of Shahpoor and of the Kutb citadel. The walls of the latter are very strong and massive; the curtain is flanked by towers placed at short intervals; the ditch is deep and broad; the main gates are judiciously set in the re-entrant angles of the bastions; strong outworks are thrown up at the weak points of the defences;—all this marks a late date, when the science of fortification was well matured and thoroughly understood. This view is confirmed by the existence of an arch with true voussoirs in a barbican at the north-west angle, the shape of which is exactly similar to those generally used by Ala-u-din. It forms an integral portion of the wall in which it occurs, and has evidently been there from the first; whilst the style of the masonry, and the manner in which it is bonded in with the main wall, shew distinctly that the barbican is of the same date as the rest of the walls, and we have thus proof positive that these, as they now stand, are the work of Ala-u-din and not of Anang Pâl.

At Shahpoor then are the remains of a palace and city wall of no great size or strength. The style of these, as shewn in the shape of the arches, walls and domes, is that of the end of the fourteenth or begin-

\* Be it observed that this is always spoken of as a *palace*, and not as a city or fort.

† In the Ayin Akhberi a palace of this name is said to have been built by Mahommed Togluck, but I believe this to be a mistake.

ning of the fifteenth century ; and no earlier date can with safety be assigned to them. This confirms the traditional report which assigns their construction to the Sultan Bhailol Lodi, who ascended the throne A. D. 1450, and whose remains are interred close by ; and we are warranted in asserting that Shahpoor was not in existence until 150 years after the Mogul invasion, and thus General Cunningham's identification of it with Ala-u-din's palace and entrenchment of A. D. 1303 falls at once to the ground.

Let us next enquire, what remains still exist of that monarch's numerous buildings. Of these there are two distinct groups, and two only : first, the walls of the Kutb citadel, and the mosque, minar and palace within it ; and, secondly, the mosque near Nizam-u-din Aulia's tomb, with the palace adjoining it, the remains of which are now known as the "Lall Mahal."\* The first of these palaces cannot possibly be the site of Ala-u-din's entrenchment, for we know that this was on the open plain beyond the suburbs of Delhi. In order to ascertain whether the last fulfils any better the requirement of the case, let us examine carefully the history of Turghai Khan's invasion.

We are told that the Mogul Chief was induced to invade India by learning of the absence from the capital of two large armies which, as events shew, constituted the whole strength of Ala-u-din's forces. One of these, under the king himself, was besieging Chittore : the other, with which was the bulk of the Cavalry, was absent in Bengal ; hearing of the Mogul invasion, the king hastily returned with the former, and proceeded to entrench himself, until succour could arrive from Bengal and the other provinces.

These succours could only reach him from the Doab, across the river Jumna ; for to the north lay the Mogul army : to the west and south-west were the Mewaties, then, as always, a turbulent and disloyal race ; to the south lay the dense jungle and forest through which, 200 years later, Shir Shah cut the great imperial road between Delhi and Agra. It thus became a matter of vital import, that Ala-u-din should hold in strength the principal crossing of the river. Owing to the range of Hills which lies to the east of the city, this crossing can only have been at one of two points ; either through the gap at Togluckabad, or somewhere near Ghaiaspoor. The

\* For a description of this, see Note A.

first of these must even then have been a swamp, and 20 years later was converted into a lake by Toghlucluk Shah; the presumption is therefore in favour of the latter site; and this presumption is strengthened by the fact of the suburbs having grown in this direction, (they would naturally creep along the principal road leading from the city :) whilst the old lines of road across the river seem to have led towards this part of its course. I conclude therefore that Ala-u-din would naturally entrench himself at this point, covering not only the fords of the Jumna, but also the towns and palaces of Ghaiaspoor and Kilukheree; whilst he would throw a strong body of troops into the old walled city and its citadel, so as to render them safe against a sudden attack.

If such were his position, we can understand the otherwise unaccountable apathy of the Moguls who, for two months, lay encamped opposite to his entrenchment without venturing to attack it, or to besiege the city. Had they attempted either course, they would have exposed themselves to an attack in the rear; and so they could effect nothing save a few marauding expeditions into the district about and against the unwall'd suburbs, until the approach of succour and (as is conjectured) the sudden assassination of their leaders by the emissaries of Nizam-u-din Aulia forced them to decamp. If Ala-u-din had entrenched himself, as Cunningham supposes, at Shahpoor, he would have been shut up as in a trap, cut off from all succour and unable to prevent the enemy from besieging both the city and his own position; although he could easily have saved Jahanpanah from being plundered by them; and as we learn from Ferishta that he was *not* able to check their foray, we must presume that it was because his position was some distance away:—in fact at Ghaiaspoor. I conclude therefore that in the Lal Mahal we have the remains of the palace built to commemorate the repulse\* of the Moguls in A. D. 1303.

Let us now endeavour to ascertain to what place the name of Siri must be assigned. We must bear in mind that Shahpoor was

\* May this not be the reason why Nizam-ud-din Aulia lies buried close to this palace? The flight of the Moguls was universally ascribed to the exercise of his supernatural powers, and what more likely than that the buried him here as being the scene of his supposed victory? /

probably not built until the middle of the fifteenth century; that the walls of the Kutb citadel were rebuilt by Ala-u-din; and that there are no remains whatsoever of any other citadel or strong fort built by him.

The most prominent references in history to the fort of Siri are those connected with the troublous times which preceded and followed the invasion of Timur. In them it is always spoken of as a place of great strength, as the citadel of Delhi in fact. Thus Mallu-Khan\* by its possession kept in awe the conflicting parties of Mahmud Togluck and Nasrat Shah;—twice† it withstood successfully all the forces that Khizr Khan could bring against it; and it was only taken by him after a third siege which lasted for four months: whilst thirty years later it was again besieged for three months without success. These facts, it need hardly be said, point rather to the Kutb citadel than to Shahpoor; for the former is a work of great natural and artificial strength; whereas the latter is a weak place, which had for defences a slight wall without any ditch, and which was commanded by the Brij Mandil and other lofty buildings in the adjacent Jahanpanah. In fact the history of this period can only be made intelligible on the supposition that the Siri held by Mallu Khan was the Kutb citadel; that Mahmud Togluck held the old city of Rai Pithora and Jahanpanah; whilst Firuzabad was occupied by Nasrat Shah; and we have then no reason to call in question the truth of Ferishta's statement regarding the meeting of Mallu Khan and Nasrat Shah at the grave of Khawaj Kutb-u-din Bakhtiar Kaki, a statement which completely identifies Siri with the Kutb citadel, within which the tomb of this famous saint may be seen to this very day.

General Cunningham endeavours to dispose of this very direct piece of evidence, by asserting that Ferishta knew nothing of the topography of Delhi; and he suggests that he was probably mistaken, and that the meeting in question took place at the tomb of another saint; one Shaikh Nasir-u-din Mahammad (better known as Roshun Chiragh Delhi) "which is just outside the south-east corner of Shahpoor." Now unfortunately for this emendation, this latter tomb is situated *within the walls of Jahanpanah and was in the possession of Mahmud Togluck*. It could not possibly therefore be the place where

\* A. D. 1394—1396.

† A. D. 1411—1414.

his two enemies met publicly to swear a solemn league against him. As for Ferishta's knowledge of Delhi, a glance at his preface, and at the life prefixed to Briggs's translation of his history, will suffice to shew that the first portion of his great work (with which alone we are concerned at present) was composed before he had ever seen the city. He commenced to write in A. D. 1596, finishing the whole work in A. D. 1609: and, if he ever visited Delhi at all, it must have been in A. D. 1606, when proceeding on his embassy to Jahangir's camp at Lahore. 'But as his history was compiled from no less than fifty-five chronicles, the writers of many of which lived in Delhi and were eye-witnesses of what they wrote about, it is in point of fact their topography, and not his, that we have to do with, and we may accept it as thoroughly reliable in a simple matter like the one under discussion. I see no reason to doubt therefore that Siri was the name of the Kutb citadel:—and judging from the date of its appearance in history, I think we may fairly assume that the name was first given it by Ala-u-din when he rebuilt and strengthened it in A. D. 1304.

I now come to General Cunningham's\* quotation from the Ayin Akhberi, to the effect that "Shir Shah destroyed the city of Ala-u-din which was called Siri, and founded another:" to which Syud Ahmad has added, on whose authority is not stated, that the materials of the former were used in the construction of the latter city. Now without for one moment impugning the accuracy of the General's translation and subsequent deductions, I must call attention to the notorious discrepancies which exist in the various copies of the Ayin Akhberi. In the one† now lying before me, not a word is said about the destruction of Siri; on the contrary it is Firuzabad‡ and its palaces which are said to have been demolished by Shir Shah. This is a much more probable statement than the one in General Cunningham's copy, and borrows strength from an argument adduced by him against the likelihood of Shir Shah's bringing his building material all the way from the Kutb citadel, when Shahpoor was only three and a half miles away. Now as Firuzabad lay still nearer, occupying indeed a portion of

\* Page lxviii,

† A handsome quarto belonging to the "Delhi Society" (vernacular) and presented to that body by Colonel G. W. Hamilton, Commissioner of Delhi, whose fine collection of Persian MSS. is well known.

‡ See extract at the end: note B.

the site of the new city, it is evident that it would be a much more convenient quarry, and we can understand why Shir Shah pulled it down for the sake of the materials in it. In point of fact, Shir Shah was a reckless destroyer, and scrupled not to remove any building which could afford him material for his works; thus in the *Araish-i-mahfil* we read that he demolished the *Koshuk Sabz*, or Green Palace, which was situated in the old city, and *Nur-ul-Haq* also records other demolitions.

There remains one argument which, in appearance at least, tells against the identification of Siri with the Kutb citadel. Sharif-u-din, the historian of Timur, relates how that conqueror sacked equally the three cities of Delhi; viz., Siri, Jahanpanah and old Delhi; the first of which lay to the north-east; the last to the south-west and the second between the two. Now we know, both from history and from the evidence of the ruins themselves, that there were then three groups of cities in existence; the first comprising the Kutb citadel, old Delhi and Jahanpanah; the second, Ghaiaspoor, Kilukheree, and the new city around them; and the third, Firuzabad and its three palaces. The two first were apparently connected by walled gardens, country houses and enclosures; the two latter were separated by an open plain, that of Firuzabad, which was the scene of Timur's battle with Mahmud Toghluk. That the Delhi plundered by the Moguls comprised the two first of these groups is evident from the fact recorded that, on quitting the hapless city, Timur marched three miles to Firuzabad: which is the exact distance between it and Ghaiaspoor; and we are therefore forced to the conclusion that the Siri here spoken of is the new city around the latter place.

Now what authority had Sharif-u-din for giving it this name? He was, as every one knows, a Persian born at Yezd and residing in Shiráz, where in A. D. 1424 (*i. e.* twenty-six years after Timur's invasion) he wrote his history. This he compiled from the elaborated reports, or annals, prepared by Timur's secretaries under his own eye; and from them of course he derived his knowledge of the topography of Delhi, which it does not appear that he ever visited, and at the siege of which he was not present. We have therefore simply to enquire what special opportunities Timur and his secretaries had, during their stay of one month in the place, for prosecuting enquiries as to the

names and localities of the various portions of a large and straggling city like Delhi. Turning to Ferishta, we find that Timur crossed the Jumna on the 13th January A. D. 1398, and on the 15th fought and conquered Mahmud Togluck. On the 24th, when the first outbreak in the city took place, we learn that, "according to his custom after a success, he was busy in camp celebrating a grand festival,"—the nature of which was such, that for five days they could not convey to him any intelligence of the outbreak, and it is to be presumed that this scene of debauchery had been going on for some days. On the 29th he was sufficiently recovered to enter the city and take part in the carnage, which lasted for fifteen days more, when he marched out to Firuzabad and so home to Samarcand. Amid such a scene of constant riot, murder and debauchery, it is absurd to suppose that the principal actors in it could settle down quietly to topograph the city; and any statements made by them, which are unsupported by other evidence, or which are opposed to the assertions of better informed writers, must be received with extreme caution. It is true that Khondemir, in his *Habibu-s-siyar*, refers to Siri as one of the three cities of Delhi plundered by Timur; but this writer also was a foreigner, and passed the first forty-eight years of his life under the rule of Timur's descendants, residing for the greater portion of the time at Herat, where he wrote his history,\* the facts for which he must of course have derived from Mogul and not from Indian sources. His statements therefore are mere echoes of those in Sharif-u-din, and with them must stand or fall.† We are thus I conceive, fairly warranted in assuming that Timur and his secretaries were in error. We know that the city around Ghaiaspoor never had any specific name; what more likely then that, finding here a mosque, palace and other buildings of Ala-u-din, and being told that that monarch built a city or fort called Siri, they confounded the two, and misapplied the name of the Kutb citadel to the city on the banks of the Jumna?

\* Begun A. D. 1520.

† It is true that Khondemir came to India in A. D. 1528 and, whilst with Baber in Bengal, *is said* to have revised his work (see Elliott's *Historians of India*, page 123,) but it is doubtful whether he had then seen Delhi and, if he had, his visit must have been a hurried one.



This exhausts all the evidence at present available on the subject, and a calm consideration of it forces us to the conclusion that the Kutb citadel is the fort of Siri;—that Shahpoor is a modern place of no importance; that Lalkote has long since been swept off the face of the earth; and that the Lall Mahal marks the site of Ala-u-din's entrenchment in A. D. 1303.

#### THE VARIOUS CITIES OF DELHI.

I shall conclude with a few brief notes on the rise and duration of each of the ancient cities, shewing which of them were contemporaneous; and we shall thus get a clear idea of what that very indefinite word DELHI meant at various epochs in its history.

The Delhi of the Hindus and early Pathan Kings (A. D. 1060 to 1250) comprised only the walled city, now known as Rai Pithora's, and its citadel: which latter, when rebuilt by Ala-u-din, received the name of Siri.

A. D. 1250 to 1321.—By the end of the 13th century a large suburb had grown up outside the walls, stretching along the road to Ghaiaspoor and Kilukheree, near which the great main road to the east and south-east crossed the river Jumna. At these two places, country palaces had been erected by Ghaias-u-din Balban, Kaikobad, and Jalal-u-din; around which a new city was gradually springing up.

A. D. 1321 to 1354.—During the reigns of the two first kings of the house of Togluck, the city of Togluckabad and the fort of Mahommadabad (or Adilabad) were erected; and the suburbs above referred to were enclosed with a wall, receiving the name of Jahanpanah. Togluckabad was never a populous place, and seems to have been quickly abandoned. The insane removal of its inhabitants to Daulatabad would have much to do with this; but the finishing blow was probably given in A. D. 1354, when Firuz Shah removed the seat of government to his new city of Firuzabad, which he had just completed.

A. D. 1354 to 1398.—Delhi was now at the zenith of its greatness and contained larger population and more wealth than at any other period of its history; but the invasion of Timur was a death-blow to its prosperity and it sank rapidly from this time.

A. D. 1398 to 1450.—Both the old city and Firuzabad gradually declined; whilst the new city around Ghaiaspoor increased in size and importance; and in the neighbourhood of this latter the Syud kings took up their abode, building the forts of Khizrabad and Mubarikabad.

A. D. 1450 to 1530.—The old city had a slight gleam of prosperity under Bhailol Lodi, who built the palace and fort of Shahpoor; but his successor removed the seat of government to Agra, which thenceforward shared with Delhi the honour of being the capital of India.

A. D. 1530 to 1638.—The next addition was made by Humaiun who commenced to build the fort now known as the Purana Killa; a work which was completed by his conqueror Shir Shah Sur.

This monarch, as already described, destroyed much of Firuzabad and of the other cities about, and commenced walling in a city of his own; a work which the shortness of his reign prevented him from finishing. From this time until the accession of Shah Jahan the capital was rarely fixed at Delhi: but, though much shrunk in size, it still remained a flourishing place. Old Delhi was quite deserted; Jahanpanah and Shahpoor were still inhabited, but very sparsely. Firuzabad was in ruins, and the bulk of the population resided in Shir Shah's city and in the adjacent Ghaiaspoor, which had now become a mere suburb. The palace was inside the citadel of Din Panāh (Purana Killa); whilst, three miles away, was the fort of Selim Gurb, used only as a state prison; at the foot of which lay the ancient Hindu village and temple of Nigumbode.

A. D. 1638 to 1707.—The last change had now come, and in 1638—1648 Shah Jahan founded the palace and city of Shahjahanabad; from which time the city and population gradually shrank to their present dimensions. We learn from Bernier that, in the beginning of the 18th century, the only portions inhabited were the present city; a long chain of buildings near the Lahore gate, the extensive remains of Shir Shah's city, and three or four smaller suburbs. He describes the whole as being  $4\frac{1}{2}$  miles long; which is, as nearly as possible, the distance between the present suburb of Kishengunge, outside the Lahore gate, and the large gateway built by Bindzin Khan opposite to the Purana Killa, measuring along what was then the line of communication through the bazaars.

A. D. 1707 to 1803.—The abandonment of Shir Shah's city was gradual;—the troublous times of the eighteenth century forced the defenceless inhabitants to take shelter within the walls of Shahjahanabad; and, when the British forces under Lord Lake took possession of that city in 1803, all beyond its limits had fallen into ruin and decay.

*Chronological Table of the various Cities and Forts of Delhi.*

1. *Indraprastha*.—Founded about the 15th century B. C.
2. *Old Delhi*.—Founded B. C. 57. Rebuilt by Anangpal I. A. D. 736. Walled in by Rai Pithora about A. D. 1180.
3. *Kutb Citadel*.—Built by Anangpal II. A. D. 1060. Rebuilt by Ala-u-din, A. D. 1304 and renamed by him Siri.
4. *Ghaispore*.—A palace and fort built here by Ghais-u-din Balban A. D. 1266—1286. Other buildings added by Ala-u-din, A. D. 1295—1316. Was added to at various times and became known in the 15th century as the "new city."
5. *Kilukheree*.—A palace was built here by Möiz-u-din Kaikobad, A. D. 1286—1288. Another was constructed by Jalāl-u-din A. D. 1288—1295, at which time the place was much enlarged.
6. *Togluckabad*.—Built by Ghais-u-din Togluck Shah, A. D. 1322.
7. *Mahammadabad*.—Known also as Adilabad, built by Mahammad Togluck, A. D. 1325.
8. *Jahānpādh*.—Walled in by Mahammad Togluck Shah, A. D. 1325—1351.
9. *Firuzabad*.—Built by Firuz Shah Togluck, A. D. 1354.
10. *Khizrabad*.—Built by Syud Khizr Khan, A. D. 1414—1425.
11. *Mobarikabad*.—Built by Syud Mobarik Shah, A. D. 1435.
12. *Shahpore*.—Built by Sultan Bhailol Lodi, A. D. 1450—1488.
13. *Purana Killa*.—Built by Humaiun, A. D. 1530—1540.
14. *Delhi Shir Shah*.—Founded by Shir Shah Sur, A. D. 1540—1545.
15. *Selimgurh*.—Built by Selim Shah Sur, A. D. 1546.
16. *Shahjahanabad*.—Founded by Shah Jahan, A. D. 1648. Palace commenced, A. D. 1638.

NOTE.—The side brackets shew what cities were contemporaneous with each other.

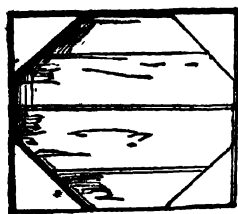
## NOTE A.

The existing remains of the Lall Mahal comprise a small domed chamber, a large double storied pavilion, and a few remains of the original enclosure wall built into work of a later date.

In the lower or basement story of the main building, there are several arches of the shape always employed by Ala-u-din, and which can be easily identified as his work. The upper story is composed almost wholly of red sandstone, (whence the name of "Lall Mahal,") and is supported on pillars, so as to form an open hall. It has the appearance of a number of small pavilions, covered with stepped and sloping roofs, grouped around a central dome, which is, in section, a true oval pointed at the apex. This is a shape commonly employed at the commencement of the 14th century.

Small pavilions like the above reappear as a common feature in the architecture of the 16th century, and are much used by Akhbar in his various buildings; but an examination of these later ones shows that

*Plan looking up.*



they are always\* domed under the sloping roof, whereas those in the Lall Mahal are ceiled with large flat stones in the Jaina style, like those in the colonnades of the Kutb-ul-Islam Musjid. This arrangement, so far as Mahomedan architecture is concerned, is peculiar to the work of Kutb-u-din Eibeg, Altamsh, and Ala-u-din.

The style of the ornamentation, of the battlements, and of the mouldings so strongly resembles that in the "Alai Darwaza" at the Kutb that there can be no reasonable doubt as to the two buildings having been designed and built at the same period; and we have thus ample warrant for describing the Lall Mahal as the work of Ala-u-din.

\* In Delhi at least; I have never had an opportunity of examining those at Shahdeára or Futtehpore Sikri.

## NOTE B.

*Extract from the "Ayin Akhberi" of Abul Fazl.*

درین شهرهای تحت اندر نام طول صد و چارده درجه و سی و هشت دقیقه اگر برخی از اقلیم دوم برگارند همانا بعرض حال آگهی بخشد سواعار کوه جنوبی ازان ستاشد سلطان قطب الدین در قلعه پتهوره بسر سپرد سلطان غیاث الدین بلن قلعه دیگر آساس نهاد آنرا مرغون اندیشد عمارتی بر ساخت دل کشاد کنکار در رسید معزالدین کیقباد بر ساحل چون شهری دیگر گردانید و آنرا کیلو کهری گویند امیر خسرو در قران السعدین آنشهر و این حصر را برستاید و امروز خوابگاه حجب اسبابی والاعمارتی نو بران آساس یافت سلطان علاوالدین شهر دیگر بنیاد نهاد قلعه نو بر ساخت آنرا سری گویند تعلق آباد از آثار تعلقشاه سلطان محمد پور او مصر دیگر فراهم آورد بلند الوابی بر افراخت هزار ستون از سنگ رحام بکار رفت دیگر منازل دلکشا بروی کار آورد سلطان فیروز بنام خود شهری بزرگ آباد گردانید و دریای جون را بریده نزدیک روانه ساخت سه گروهی فیروز آباد کوسکی دیگر بر افراخت جهان نما نام فراخ سه لقب زده بود و دین پناه نام نهاده شهر حال علائی و بران کرده جدا شهری برا را شت •

*Notes on Pilgrimages in the Country of Cashmere. By Major  
D. F. NEWALL, R. A.*

[Received from the Punjab Auxiliary Branch of the Asiatic Society of Bengal,  
31st July, 1866 ,

The tendency of the Hindu inhabitant of Cashmere, to localize in his own small, though lovely valley the fabled incidents of his religion, common to all lands where the Brahminical faith prevails, is, I believe, generally known. In putting on record, therefore, a few notes on the pilgrimages of Cashmere, I may be, perhaps merely on a small scale, assigning local spots the fables which more properly belong to the entire Hindu Pantheon, and have their localities elsewhere in Hindustan.

I proceed, however, to what I find in my notes as No. 1 of the pilgrimages annually undertaken by native Hindus of Cashmere, and which is known as that of "*Amr-nauth*" (Lord of Immortality); and before proceeding to detail the steps of the pilgrimage, a few words of description of this far-famed locality may be interesting: I say far-famed, because the full moon of August annually has pilgrims from all parts of India, as well as Cashmere, assembled in honour of its tutelary Lord.

The gypsen cave of *Amr-eeshur* or *Amr-nauth* (Lord of Immortality), sacred to Mahadeo, is situated in the rugged chain which separates Cashmere from Thibet. Its elevation above the sea cannot be less than 15,000 or 16,000 feet, and even during summer its approach is invested with the snows of winter. Wild fantastic peaks and desolate steppes surround the spot, and the grand old glaciers of Sooroo and Wardwun tower in the far horizon.

Hindus perform a yearly pilgrimage to this shrine, and to a devotee from the city of Srinuggur there are no less than twenty-two places of Snân where religious ablution must be observed, before he can approach the holy adytum, or sacred cave of Amr-nauth. Legends or absurd fables are attached to these spots, and the following is a brief record of some of them.

The Hindus of Cashmere, followers chiefly of Siva the "Destroyer," and Ophists, believing moreover their own small valley to contain within its limits the germ or type of the whole Hindu Pantheon,

must needs stumble at every step upon some stock or stone communicative of fabled adventures of their deities; adventures as puerile and fantastic as can be well conceived, containing few elements wise, historic or sublime, not redeemed from utter absurdity by the glory of poetic imagery, nor, like the myths of the Greeks and other ancient nations, by the vigour of a profound cosmogony.

Fatuous ecstasy impressed on their features, the wretched idolaters, male and female, may be seen, stark naked, abjectly grovelling in the snow and dragging their bodies over the "lingum" or "phallic emblem," which in the form of a stalactyte issues from the frozen fount of the "Lord of Immortality."

I could draw attention, however, to these various places of Snân or religious ablution, at the various steps of Hindu pilgrimages, as presenting in some instances objects of archæological interest. Thus one may pass many times along a road without observing any object worthy of attention, until guided thereto by the pilgrim; when, turning a few paces into the jungle at the road-side, some stone or symbol or other object of passing interest to the antiquarian may often be discovered. I beg to note this point as worthy the attention of the members of our Society. I would mention also at this point that in Cashmere, (where the Mahomedan faith has prevailed for about five centuries) it is no unusual thing to see both Hindus and Mussulmans worshipping at the same holy place. This may be attributed, on the one hand, to the Mahomedan in some degree still clinging to the superstitions of his ancient Hindu ancestors; and on the other, *i. e.* in the inverse case of a Hindu worshipping at a Moslem shrine, to the fact that the fragments of many overturned or ruined Hindu temples have been used in building the Mahomedan mosque or *zearut*. I could instance examples of both these cases. With these remarks I proceed to the actual detail of the pilgrimage to *Amr-nauth* as detailed in the *Shastr* on the subject, and as partially verified by myself as to the localities of the various stages.

Proceeding from the city of Srinuggur on the seventh day before the full moon of August, the pilgrim proceeds up the river Jhelum (or Vitastá) and arrives at the first place of Snân or religious ablution, called "*Shriya*," the whole or collected waters of the valley previous to its desiccation by the Múni Kashiapa. I am not aware of any

symbol or remnant of antiquity at this step, which is literally a "bathing-place" on the river near the island above the city.

(2.) The pilgrim next arrives at "Pandrethon," where the foot-step of Suttee, the wife (or active principle) of the Destroyer appears to her enamoured lord in his pursuit of the flying fair. The temple at this place is well known, and has been described by far abler pens than mine. I may, however, briefly mention that it was built about A. D. 913—921, in the reign of king Pārtha, and escaped destruction when the ancient capital was burnt. It was subsequently, perhaps, used as a Mahomedan tomb, and so again escaped destruction at the hands of the fanatic zealots Shahabooddeen Sikunder Būtshikan and others. It stands in the centre of a tank 125 feet square, is 22 feet in size, is dedicated to Siva, and is not a Boodhist temple as stated by some.

(3.) The next forward step on the pilgrimage is "*Padinapore*," city of Lukshmi (dweller in the Lotus flower, (*padam*.) There are here a few ruins, a high phallic column, and I believe others, but I forget their exact nature, and my notes are silent on the point.

(4.) *Jubroroo*, (Love of Youth) sacred to Sheo and Mahadevi: a lingum or phallic emblem is, I think, the symbol at this step.

(5.) *Awentipore*. The city of king Ven or Awenti, who acquired the power of walking on the water from his zeal in the worship of Siva. In his time the great flood occurred which overwhelmed the cities of the valley, so the powers attributed to him in the Shastr may perhaps have proved useful. There are some rather extensive ruins at this place well worth a visit.

(6.) *Hurriepore*. The city of Ganesh, the elephant-headed—yellow.

(7.) *Wagahamoo*. House of Wâg (spirit of the air, aider of the Immortals) from whose weedy fountain cornelians are said to be ejected—a pool or spring.

(8.) *Husti-ki-nar-keoun-Nargum*. "The breathing of the ears and mouth of the elephant" (Gánesh.) The fable on this head is too absurd and puerile to be noticed, and is one of those which led to my general remarks on the subject at the head of this paper. In fact, I may say generally that in the Shastr detailing this pilgrimage, fables of intense absurdity are attached to nearly all these places,



many of them expressive of the blandishments, or amatory phases, of the pursuit of Mahadevi or Sutte by the *creative symbol* of her consort the Destroyer, a disgusting and fantastic myth too indecent to be more than remotely alluded to.

(9.) *Chakredhar*. The abode of the *Quoit-thrower*, an agnomen of Vishnoo.

(10.) *Deokie-zan*. Wife of Hurrichundra Raja.

(11.) *Wuzzecshur*. A name of Mahadeo signifying the conqueror.

(12.) *Hurrichundra Raj*. The palace of king Hurrichundra.

(13.) *Tejwarrah*—the abode of Mahadeo.

These four last are portions of the once famous city of old Rajbarrie (or Bijvihara) whose temples, including one hundred phallic columns, were overthrown by the Moslem zealot Shahaboodeen.

At *Hurrieshur*, a ghât on the river on the upper side of the modern town, are grouped some very remarkable fragments well worthy of minute observation. The word signifies "Father or Giver of all."

(14.) *Soorie Goophar*. "Caves of the sun." At this place it is fabled that Mahadevi was pursued by the Demon Bamásoor (enemy of the whirlwind.) She thereupon prayed to Siva for power to destroy the demon, who was accordingly annihilated by fire, and his name hence changed to Busmáswár (the enemy burnt by fire). This cave is not the celebrated cave of the sun at Martund, I think, but one on the hill-side on the right bank of the river Liddur (or Sumbooderi,) but I have not visited it.

(15.) *Succur-gaom*. The trunk of the elephant (Ganesh) is here supposed to be visible beneath the waters of the Liddur or Sumbooderi (swallower of waters.) This river joins the Jhelum at Bijvihara.

(16.) *Buddraroo*. The place of embraces.

(17.) *Sullur*. The place of generation.

(18.) *Ganésbhúl*. River of Gánesh. The pilgrim bathes at *Bruggaterut*, the shrine of "Brug," a devotee.

(19.) *Neela Gunga*. Mahadeo here applied the "soorma" to his eyes which gave the blue colour to the Gunga, a river which is fabled to have flowed from his head.

(20.) *Tanāshur*. "The fixed abode," because here Mahadeo became stationary. This place is a camping ground near the Séshuāg lake, a fine sheet of water which is passed by the pilgrims on their way to the next and last step of the pilgrimage, but which does not become invested with an eminently sacred character until their return from the cave of Anerreth.

(21.) *Panch Taringini*. The five rivers proceeding from the head of Siva. At this beautiful spot the pilgrims encamp and pass the last night of the pilgrimage previous to their ascent to the holy caves.

(22.) Commencing the ascent in the early morning, the pilgrims pass by the holy rocks of Amreeshur (giver of immortality,) whence issues the philtre of immortality proceeding from the crested head of Mahadeo, the drink or ichor of the immortals.

Here the devotees may be seen rolling on the ground amid the snow and ice, ecstasy depicted on the face at the idea of divine afflatus. Retiring from the caverns, they return to Panch Taringini, and then again pass the night, preparatory to their return journey down the valley to the Seshuāg Lake, where they finally bathe. The pilgrimage is then complete, and the pilgrims disperse to their respective homes. It is fabled that amidst the rugged peaks surrounding this Lake lived Watasnār, a spirit of the air, who, having chased away the host of heaven, thus established a tyranny until slain by Mahadeo, who after this adventure is fabled to have "rested on the bosom of Séshuāg;" Séshuāg being represented as a huge serpent with 10 heads. A picture of this touching spectacle is in my possession, and a curious production it is, and suggestive of the "ophistic" nature of the worship of the Hindoos of Cashmere.

\* \* \* \* \*

I have the details of 11 other pilgrimages to various parts of Cashmere, varying in length; that to the sacred lake of Gungabul under the Hur-mookh peak is the next longest, although several of the minor pilgrimages involve a graver issue to the devotee. Space will not permit me, in this paper, to do more than note the salient points of a few of these.

(1.) The pilgrimage of *Hur maktur Gunga* (or Gungabul) above alluded to, in the Lar pergunnah, is to be found in the Gunga Maha-

tim Shastr. There are 14 places of snân or religious bathing in this pilgrimage; the last being the holy lake of Gungabul in which the Hindoos cast the ashes of their deceased relatives. The time for this pilgrimage is midsummer.

The return from this brings us to the highly interesting ruins of Razdân or Razdoing; the only important temple of Cashmere not noticed by Cunningham, a detailed description of which I may perhaps be able to afford in a future paper.

(2.) The pilgrimage of *Martund* in which are seven places of snân.

(3.) Pilgrimage of *Vetusta Khoond* the source of the river Jhelum or *Vetusta*, in which are ten places of snân.

(4.) Pilgrimage to *Suhoojun Teerut* the burning ground—three places of snân.

(5.) Pilgrimage to *Kúpál Muchám* (the escape of the head from sin), undertaken by criminals for the release of sin.

(6.) Pilgrimage to *Sheeva-Devi*.

(7.) Pilgrimage to *Kûnhyie Matár*,—four places of snân.

(8.) Pilgrimage to *Teiposh Kur* in the Bongil pergunnah,—two places of snân.

(9.) A second pilgrimage to the *Vetusta Khoond*,—eight places of snân.

(10.) A fabulous pilgrimage or progress of Raja Bhagêrut, the tutelary genius or deity of the river *Vetusta* or *Jhelum*,—ten places of snân, and this closes the catalogue of my notes on this subject.

## No. 2.

*The pilgrimage of Hur-mooktur Gunga (or Gungabul), in the Lar Pergunnah, as detailed in the Gunga Mahatim Shastr.*

As stated above, there are 14 places of “snân” or religious bathing to be observed in this pilgrimage; viz. 10 previous, and 4 subsequent, to the pious act of casting the ashes of deceased relatives into the holy lake, in whose mournful waters lie the ashes of generations of Hindoos.

The writer of this paper will not easily forget the impression, the view of the cold still waters of this desolate lake produced on him, viewed as they were about sunset one autumnal evening, a snow storm

beginning to set in off the lofty granite peaks of Hurmookh, its guardian mountain, whose dark shadow fell across the mournful waters of the lake.

However not to occupy time, I proceed to the detail of the stages of the pilgrimage, as detailed in the Shastr mentioned at the head of this paper.

Four days before midsummer, the pilgrim, having collected the ashes of his relatives deceased during the year, sets out from the city and proceeds to the first step of the pilgrimage, namely, "*Vecha Khoond*," the pool of the creator, or Brahma, who at this place is stated to have created "*Vishnoo*," the preserver, the 2nd person of the Hindoo Triad. This is an interesting pond surrounded by willows and other foliage, about a mile from the shores of the Dhull lake on the road towards Lar.

(2) Having passed through the sedgy marshes which border the Hákrit-bul or lake of weeds, the pilgrim approaches the second step, *Gundoor-nugger*, city of the Gandoors or angels. There are here some ruins of what must formerly have been an extensive city. They are mere fragments; but it is probable that objects of interest might be discovered here amidst the marshes and weedy flats formed by the Sind river, which is lost amidst the creeks and sedges of the Haker-sir lake in the close vicinity, could the means and leisure be obtained for the search.

(3.) The next step is *Máhirji-gäon*, the residence of Mahadevi who there forbade her consort to approach: this is implied in the word—Ma (do not) zih (come).

(4.) *Numoor*,—the bathing-place. A pretty village in the Sind valley near the river. There are a few mines, tanks, &c.

(5.) *Karrung-ka-Nuddie*,—a residence of Vishnoo; Karrung being a name of Vishnoo signifying "granter of prayer."

(6.) *Ramaradun*. Place of prayers, being the forest where Raja Bhágeerut established himself for prayer to Siva.

(7.) *Mahulish Merg*,—"the meadows of the buffalo," so called because Sutte is here fabled to have roamed about, like a buffalo feeding, whilst in search of Mahadeo, her consort.

(8.) *Humsádar*,—"the gates of King Huns" (the swift one), a name of Raja Bhagáram, who is stated to have here cleft the pass with

an arrow. On the road we pass several small lakes, amongst them those called Bráhmisir and Ashiféroo.

(9.) *Nundi-kettur*. The abode of Nandi the attendant bull of Siva. This is a very interesting lake, also close under the peak of Hurmookh, and divided only by a narrow ridge from Gungabul.

(10.) *Gungabul* or *Hurmookhtur Gunga* (Hur-Siva—Mookh head Gunga river,) - the river or water proceeding from the head of Siva. In this solitary mountain lake, the Hindoos, as before mentioned, cast the ashes of their deceased relatives; which after incremation are collected and here conveyed once during the year, at midsummer. Having reached this utmost point of the pilgrimage and performed the proper rites (which I cannot, however, narrate, having visited the spot in the late autumn of 1852, long after the time of the pilgrimage,) the pilgrim commences his return by a different route; and after a long and fatiguing march, quits the higher range of hills and descends to the *Nara Nag* (11) or Lake Getara which may be considered the 11th place of snân of this pilgrimage, which is not yet completed. On the banks of this pool (for it is little more) the pilgrims leave their grass hill shoes (phoolas) and hill sticks; many of which I observed lying about. This pool is closely adjacent to some very remarkable ruins—those of Razdoing, which I propose to make the subject of a separate paper. A *Sonne*, or mysterious afflatus, is supposed to proceed from these ruins, a particular portion of which is especially held sacred by the pilgrims who salaam there before leaving the spot. *Nára* is a name of Wussisht Bhugwan, (son of Brahma,) who is stated to have here worshipped Siva.

(12.) *Wangût*,—Wan being a name of Surroosuttie, consort of Brahmâ, signifying “the Talkers.”

(13.) *Woosun*. The place of *all* the shrines as implied by the name. There are several small temples in the vicinity of these two last-named stages.

(14.) And last. The pilgrim has now re-entered the Sind valley and proceeds down it on his return journey, repassing successively (without however the necessity of ablution) Nos. 5, 4, 3 and 2 of the pilgrimage, until he comes again to No. 1, viz. *Vecha Khoond*, where he finally bathes, and the pilgrimage is complete.

I would indicate *Gandoornugger* No. 2 of the pilgrimage as a pro-

missing locality for excavation, and the ruins of *Razdár* or *Razdoing*, the only group of temples not noticed by Cunningham (to whom, however, I long ago communicated their measurements and description) deserve a far more searching investigation than the very cursory one I was able to carry out during the short visit. I paid them in September 1852.

I now proceed to give outlines of the remaining pilgrimages of which I possess notes.

### No. 3.

The pilgrimage of *Martund* I find as No. 3 of those in my journal. *Martund* properly so-called, and not "Muttun" or "Matan" as frequently written, leads the pilgrim from Srinuggur up the river and over much the same ground as that to Amernauth, although the places of snán are different. These are as follows:—

- (1.) *Deokie Yar*,—Sacred to Deokie, wife of Rajah Hurrichund.
- (2.) *Doomia Shríim*,—The abode of a devotee named Doomia.
- (3.) *Anant Nág*, which is one of the pools or tanks at Islamabad, Anant being a name of Vishnoo. These tanks, filled as they are with fish of the carp tribe (*ciprinidae*), have frequently been described by travellers, and need no mention.
- (4.) *Gutim Nág*,—pool of Gotima, a devotee. I believe this is also one of the tanks or springs at Islamabad, and the description of No. 3 may perhaps apply to this.
- (5.) *Charkabul*, so-called from "*chark*," the fissure or spring head of the stream fabled to have issued from the cleft in the sun as described in the following:
- (6.) *Martund*—(*Mart*, the fissure—*Und* open). Mahadeo is fabled to have possessed three eyes,—the "Sun," the "Moon," and the "Subterranean Fire." He threw down the eye forming the Sun on Martund, which being broken, from it flowed the pool and stream of Martund.

This well-known spot has been too often described to require further notice here.

- (7.) The pilgrim returns by *Anant Nág*, the No. 3 of this pilgrimage, where he bathes, and the pilgrimage is complete.

### No. 4.

I now proceed to detail the pilgrimage of *Vetusta Khoond* (Virnag)

the source of the river Jhelum. Again the pilgrim, departing from Srinuggur, proceeds up the river over nearly the same ground as the foregoing, and passes the following places of holy ablution :—

1. *Sooneyar*. The place of the moon.
2. *Gunputyar*. The place of Gáncsh.
3. *Mullyar*. Sacred to Brahma; Mull being a name of Brahma.
4. *Shriya*. “The whole.” See No. 1 of the pilgrimage to Amer-nauth.

5. *Bejbeharie* (or *Bej-leshur*) “giver of aid,” built by Hurrichundra Raja, has already been described. In the details of this pilgrimage an absurd story is narrated of Mahadeo in reference to a certain devotee’s wife (the lady’s name is discreetly suppressed), in whose house the hundred Lingums or phallic columns of Bejbiharie are stated to have been constructed.

6. *Wanpoosh*, a part of old Bejbeharie.

7. *Hur Nág*,—Sacred to Mahadeo; Hur being a name of that deity.

8. *Virnág*. Sacred to Mahadeo, giver of orders. This beautiful fountain, the reservoir of the spring head of the Jhelum, has been often described, and is too well known to need notice here. The circumjacent buildings are Mahomedan, but from the Hindoo legends attached to the locality, they are held sacred by men of both creeds. The same remark applies to Anant Nág (Islamabad), Bala Pam Rishi, Keer Bownie, and numerous other localities in Cashmere.

(9.) *Vetusta Khoond*,—the actual spring head or fountain of the river Jhelum. The name *Vetusta* signifies a “span,” the imaginary width of the stream at its source.

(10.) Return viâ *Baramoola* to *Kootee Teerut* the 10th, and last step of this pilgrimage, (signifying a crore or the junction of a million teeruts), bathe, and the pilgrimage is complete.

#### No. 5.

The pilgrimage of *Suhoojun Teerut* or the burning ground.

1. *Mahadamuttie*.

2. *Luhoojun* (spontaneous fire from the earth), of which the following is the fable.—The gods being here assembled for prayer to Mahadeo, were interrupted by the demons (Rakhshusas), whereupon Mahadeo raised fire from the earth in order to destroy them. To the

present day the earth there is combustible; and at times grows hot enough to cook rice. When this is known, the Brahmins from all parts of Cashmere flock there.

(3.) Return by Mahadamuttic again. bathe there, and the pilgrimage is complete.

#### No. 6.

The next I find is that of the pilgrimage of *Kupál Múcham*, which has already been alluded to as involving a grave issue to the Hindu undertaking it. The following is the description given in the Shastr. Siva (Mahadeo) had slain the wife of a demon (Rakshus), and was pursued by the sin (or nemesis) of the act. By the advice of the "sun" or luminous emanation of Mahadeo, who is stated to have dwelt at Shupeyon, he formed a "Nag" or fountain for the purification of sin. This pilgrimage is accordingly resorted to by great criminals. "Even the slayer of a hundred Brahmins may be cleansed from his sin by the performance of ablutions in the *Kupál Múcham Nag*," "Lake of the escape of the head from sin." The time of this pilgrimage is midsummer.

#### No. 7.

A pilgrimage to *Shewa Devi* in the Bring Pergunnah for retired devotees only. The Nag or Lake is sacred to Siva, but I find nothing further noted in regard to this pilgrimage, nor do I know its exact locality. \* I believe, however, it is near Shahabad, towards the Meribul pass.

#### No. 8.

I now proceed to No. 8, or the pilgrimage of *Kúnie Mátár*, which leads the pilgrim down the river to *Baramoola* (more properly *Wara Mool*, *Wara* being a name of Vishnool, the preserver, signifying the "Hog," who is fabled to have at this place rooted up the earth of the valley from beneath the water of the primæval lake, in fashion of a hog, with his tusks) This of course bears reference to the Hindu fable of the original desiccation or draining of the valley by the Muni Kashyapa, in which he is stated to have been assisted by Vishnool. ●

(2.) *Papaharun Nag*,—"The pool of the putting away of sin." The 2nd step of this pilgrimage is fabled to have been formed by Mahadeo



at the request of Vishnool, in order that his disciples might escape the destructive vengeance of the former deity.

(3.) *Kinchijie Mátár*,—"The rock of the mother" sacred to Mahadevi. Siva, whilst here engaged in self-meditation, was disturbed by a demon whose destruction followed.

(4.) Return, perform snán again at *Baramoola*, and the pilgrimage is complete.

#### No. 9.

The pilgrimage of *Tripooash-kur* in the Bongil pergunnah, a spring of water so called as being the supposed place of meeting of Brahma, Vishnool, and Mahadeo, the Hindu Triad, being literally the meeting of the three. The Shastr, interpreted by a Brahmin worshipper of Siva or Mahadeo, says, "Here pray to Mahadeo!" I may as well, perhaps, take this opportunity of saying that the details of all these pilgrimages were obtained through a Brahmin of this sect, a wretched old man, whose sympathies may have led him to exaggerate the importance of the localities and pilgrimages sacred to the Destructive Principle, the object of his peculiar veneration, at the expense of the remaining personages of the Hindu triad.—However, to proceed to the next step of this pilgrimage. (2.) "*Karg*" the eater. Here "*Grúd*," the bird-like steed of Vishnool, was seized by a serpent god who began to eat him. Here snán must be performed. The pilgrim must remain three days in prayer to Vishnool the preserver, and the pilgrimage is complete.

#### No. 10.

A second pilgrimage to the *Vetusta Khoond* (see No. 4,) is as follows.

(1.) *Kanibul*—Kani being a name of Siva.

(2.) The *Teerut* at the juncture of the *Vetusta* and *Sumbooderi* or *Rhiddur*.

(3.) *Deokre Zar*. (4.) *Bejbeharie*. (5.) *Sungum*. (6.) *Shriya*. (7.) *Mullyar*. (8.) *Gunputyar*. (9.) *Soomyar*. (10.) *Baramoola*.

I find this noted as above, but it appears to be a sequel or return pilgrimage from *Vetusta Khoond* or *Virnag*, via *Wanpoo Hurnag*, and thence to the points noted: *Kanibul* being at the bridge of Islamabad.

## No. 11.

I now come to the last pilgrimage of which I have noted the details, and which may perhaps be almost more properly called a fabulous account of the river Vetusta, as I am not aware that it is at any time undertaken by the Hindus of Cashmere, and as I rather think that some of the places named are under the waters of that river. I extract exactly as I find it in my notes.

“Fabulous account of the origin of the river Jhelum or Vetusta.”

“Mahadeo being here engaged in self-contemplation, Raja Bhágérút arrived, and prayed for a Nág or spring in which to bathe and be cleansed from his sins. A stream then issued from the head of the destroyer which, on arriving at Wampoo, was swallowed by a certain demon, rejoicing in the name of *Kalneemie Assur*. A second spring was in like manner swallowed by the thirsty demon. Whereupon Raja Bhágérút descended from his place of prayer at Vetusta Khoond, and engaged the demon, whom, after a brisk encounter (described in the graphic language of the Sanskrit ring (sic in MS.) he is stated to have “*injured, but was unable to destroy or drive away.*” (Kalneemie Assur had probably graduated in the Vedic art of self-defence!) In fact it seems a polite way of stating that the Raja got the worst of it, as the demon is stated to have “*given chase,*” and to have come up as far as Hurnag (Virnag) in pursuit. At this, however, the wrath of the destroyer was aroused. He encountered the demon, and slew him, got his “*head* in chancery” and finally “*grassed*” him.\* I have in my possession a picture of this event where Mahadeo is represented as literally “*sitting*” on his face! Lion (or Mahadeo) then commanded the spring to follow Bhagirat Raja, who, descending the valley, passed successively.”

1. Kanibul. 2. Sunbooderi Tirat.

3. Deokieyar. 4. Bejbeharie. 5. Sungum.

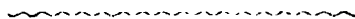
6. Shriya. 7. Mullyar. 8. Gunputyar.

“9. Soomyar. 10. Baramoola, the residence of Raja Bhágérút, and where the pilgrimage terminates.” Thus far my notes! These places represent the course of the river, and seem nearly identical

\* I am unable to translate with sufficient unction the various phases of this grand passage of arms (or wrestling match) between the two champions; and I hope the Society will pardon the terms employed as equivalents.

with those detailed in No. 10, pilgrimage, but as they are noted as separate, I so transcribe them. I may mention that the notes from which the above pilgrimages have been taken were made fourteen years ago, and in a few instances may contain inaccuracies, as my almost total ignorance of Sanskrit may have led me to misunderstand in some few instances the translator, who read to me in *Persian* his own versions of the Brahminical fables. For myself I confess to an utter distaste for this especial branch of research. The Hindu religion, as interpreted by its wretched representatives of the present day in Cashmere, seems a base alloy, and a corrupt and paltry veneering over the fables (themselves absurd enough) of the later Vedas..

The original grand and pure moral code of Ménu seems quite lost sight of;—priestcraft and abject superstition have of course stepped in and vitiated fables already sufficiently gross and material in their symbolical Vedantism; whilst the petty ceremonial customs and observances of modern Hinduism can only excite ridicule and disgust in the mind of the student. I have long desisted from the uninviting pursuit, and it is with much distaste that I have now transcribed, from notes and data long since collected, these few details, which, however, I was unwilling should altogether be lost, as they may tend to guide abler scholars to deeper research than I was ever able to make; and possibly in some of the localities alluded to, inscriptions, or other fragments of interest to the Society might be found. Apologizing for the fragmentary character of this paper, I will now bring it to a close, as the subject has been, as far as I am concerned, exhausted.



*A Vocabulary of English, Balti and Kashmiri, compiled by H. H. GODWIN AUSTEN, Capt. H. M., 24th Regt. Topl. Assist. Gt. Trigl. Survey.*

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This Vocabulary of Kashmiri and Balti words was compiled from time to time in leasure hours of rainy days, while surveying in those countries. It does not profess to be strictly correct, being taken from so many sources, in so many parts, and from, generally speaking, the common people. Several of the words may possibly be only common to a single district or valley, which is frequently the case, especially in those least frequented, or where the people are a mixed race, as in the Kishengunge, Wurdwan and the upper part of Dras valley.

In the Balti words, those having the first, second or third letters marked with dots under them or a line, as ish ish, such syllables are slightly sounded before the word of which the full sound follows after, which is a peculiarity of the Tibetan dialects,—as also the letter TZ and TS.

*Parts of the Body.*

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Kistwári, &amp;c.</i>
Ankle.	Git.	Kámi Gút.	git.
Arm.	Nur.	Prúkhpa.	baon.
Armpit.	Kúṭz.	.....	kuchali.
Beard.	Dhor.	Smúḳra.	H.
Belly.	Yūḍ.	Thoáh.	ced.
Body.	Pan (fr tun s.)	.....	zieu.
Blood.	Kúth (fr raḳh s.)	Krūḳ.	rath.
Bone.	Udidj.	Rúspa.	H.
Bowels.	Andum.	r. Gúah.	H.
Brain.	Wús.	Klúṭpah.	mèzo.
Breast.	Wúṭch.	chu chu.	H.
Do. of a woman.	Búb.		H.
Calf of leg.	Groz.	.....	pini.
Cheek.	Güll.	Müngül.	kakri and gul.
Chin.	Hongeing.	Kosko.	• chùn si.
Corpse.	Mud.		H.
Buttock.	Súḳdj.	.....	gúlṭsundo.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Kistwari, &amp;c.</i>
Ear.	Kūn.	ishná.	H.
Elbow.	Kūnwūt.	Párúks, krimoks.	kúndori.
Eye.	Qitch.	Mikh.	atch.
„ ball.	Lál.	.....	.....
„ brow.	Boomb.	Sminma.	brahmoo.
„ lash.	Oitcher wal.	Mikh shok.	purh.
„ lid.	tor.	Mikh Phūk.	niali.
Face.	Bhút.	Okdong.	H.
Finger.	Ongegee.	Zúgú.	H.
„ little.	Kis.	Tibicháng.	kunèti ungoli.
Thumb.	Niet.	Tècho.	noth.
Flesh.	Marz.	Shè (short).	mas.
Foot.	Khore.	Kūngma.	khør.
Forehead.	Dèker.	Spūlbah (tail—)	kapal.
		Gonchero.	
Hair.	Mus.	Gospo (Locks—)	
		Snūs kore.	
		also Wal (bal) kesh.	
		in Hind.	
Hand.	Áther.	Lukpa ལུཀཔ	H.
Head.	Kūlla.	Go.	roth.
Heel.	Kour.	álh Stingma.	thùr-rhi.
Knee.	Kot.	Būkhmo.	khùtha.
			zanoo.
Knuckle.	Mūrm.	Gut, the condyle anguli ka bat.	
		of any bone.	
Leg.	Zūng.	Zúk.	H.
Lip.	Wúbh.	Kūlpūkh.	oth.
Liver.	Kreu marz.	Chinma.	H.
Lungs.	.....	Huing.	shunknar.
Marrow.	Wūs.	.....	dūndh.
Moustaches.	Gontsè.	Sūm-lūl.	H.
Mouth.	Aos.	Kūkore.	ási.
Nail.	Nām.	Zermúns.	noth.
Navel.	Tán.	.....	bontú.
Neck.	Höte.	Zgema-zingma.	tanth.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c</i>
Nose.	Nust.	Snūmzūl.	II.
Nostril.	Nuk were.	—shong.	nūshkuli.
Palm of hand.	Mūns Áthè.	Lūk tūl	* II.
Penis posterior.	Momur.	... .	
Rib.	Kūd.	.....	
Spittle, saliva.	Thōk.	Thú.	II.
Shoulder.	Pheuk.	Spú mah, rostud.	II.
Side.	hul kain.	Sfhèmah.	stong tong.
Skin.	... ..	Bukhsa.	niali.
Sinew.	.....	.....	sir ?
Breath.	Zámun.		
Skull.	.....	Spicu.	taloo.
Sole of foot.	Tul Poot.	Kan thil.	tulwai.
Sweat.	Gúmer Arakh,	Khmúl choo.	pursa.
Thigh.	Zang.	.....	tussi.
Throat.	.....	Stergong.	
Toe.	Niet.	Kami thècho.	pair ke noth.
Tongue.	Ziau.	Chě.	zib.
Tooth.	Dand.	Tso.	H.
Urine.	Mütter.	.....	choti.
Vein.	Rüz.	Tsa.	sir.
Waist.	Trek.	Skètpa.	mūdiz.
Womb.			
Wrist.	Hotz.	Lūkipramo.	bini.
Lip (2nd time.)	Wúth.	Kūlpūkh.	
Back of hand.	.....	Lūk pir dong.	H.
Temple,	.....	Sna mik.	phūrni.
Heart.	.....	tloah.	H.
Lungs.	.....	Lering.	
Small of back.	.....	Sketpah.	H.

## EATABLES, DRINKABLES.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Kishtwari.</i>
Bread.	Jsoát.	Kúrba.	
Butter.	Thein.	Karpo marh.	nūni.
Arsenic.			
Assafoetida.	.....	.....	gunka.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c.</i>
Aderuk, Ginger.			H.
Cheese.	Tsamun.	Pruse.	H.
Cocoanut.	Kúpŕ.		
Butter milk.	Gúrŕs.	{ Dŕba. S. fr. Go a cow and Rus, juice.	•
Dŕnea.	Dainwul.	Oosú.	H.
Eggs.	Tool.	Biepphun.	tool and H.
Fat.	Churb.	Tsil.	meuz.
Fish.	Gadò.	Nya.	H. [thús.
Flour.	Oit.	Bŭkhphe(wheat)	thrŭs phè (grain)
Ghi.	Ghiau.	Marh.	H.
Gour.	Gore.	Same.	H.
Gum-arabic.	Sŭmbŭk.	.....	Kurmachi.
Honey.	Marnch.	Z. Biangtŕi.	marchi. *
Meat.	Nátè.	Shă.	mas. <i>Punjabi</i> .
Milk.	Doad.	Omah.	H.
Longue (cloves).	Rong.	Zèru.	H.
Rice.	Tomul.	Brŭs	H.
Salt.	Nŭn.	Pyyon.	loon.
Sugar.	Mishere.	H. Kurrah	H.
Tea.	Chaic.	chá.	H.
Water.	Ab	P.choo. Kashmir.	H.
Pepper (black).	Krún Maritz.	Sneerma (kachúl)	H.
Do. (red).	Wŭzl do. or wangun waritz.	Sneerma.	pipli H.
Haldi.	Jider.	Yŭng.	H.
• Elachi	Aler.	Eler.	H.
Zira.	Zieur.	Thŭlò.	H.
Saffron.	Kong.	Kŭr kŭm.	H.
Sulphur.	} .....	Den, Mŭzi.	H.
Vinegar.		same as Hind.	H.
Apricot oil.	.....	Chuli mar.	H.
Mace (dal chini),	.....	same.	H.
Opium.	.....	aphine.	aphoo
Poison. *	.....	Tŭk.	H.

*English.*                      *Kashmiri.*                      *Balti.*    *Remarks, Kishtwari, &c.*

PARTS OF A HOUSE, ITS FURNITURE, &c. &c.

Basin.	Lügün.	Karyül.	pholoo.
Ghusal-khana.	Seran küt	.....*	none.
Beam.	Konib.		H.
Bed.	Charpai.	same as Hind.	küt kat.
Bell.	Rünyò	Züngül, Tripshil.	H.
Bellows.	.....	S. Bûpa.	dûmni.
Blanket.	Tsader.	Karh.	H.
Bolster.	Shoudgon.	is Niüs.	shirana.
Cage,	pingürá.	same as Hind.	H.
Cradle.	münzül	.....	phüngûra
Curtain.	purda	same as Hind.	H.
Door.	Bar	z. go.	doar. H.
Fan, Pünka	Wáwüz	Bianyep.	H.
Hinge.	Kieal.	.....	none.
House.	Lürh, Nüns.	Nüng.	H.
Jug.	Nore.	.....	
Key.	Koonj.	Limik.	H. and P.
Knife.	Shrák.	Gri.	P.
„ clasp.	„ púch.	.....	
Ladle.	Bod chonch.	Zerbû	Dokhi.
Lamp, chirag.	Tsongh.	Skongbû.	H.
„ wick.	Sorth.	... ..	H.
Lock.	Kûluph.	Tzimah.	H.
Mat.	Wüggoo.	Wügga.	phuri.
Spoon.	.....	Phrawün.	
Paper.	Kákúd.	Shok shok.	H.
Pestle & mortar.	Kauj	.....	H.
Mortar.	Kajwüt	.....	H.
Pestle for rice.	Mohul	... ..	mossul.
Mortar do.	Künj.	. ....	ookah.
Pestle worked with the feet.	Inder mohul.	.....	junder mossul.
Pillar.	Thüm.	.....	kauth.
Plate.	Bán.	.....	*
Gunpowder.	Shorò.	Ismun.	P.



<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c.</i>
Quilt.	Lèhâf.	likto.	
Roof.	Tálo.	.....	H.
Room.	Kút.	.....	P.
Weighing-scales.	Trükr	Trükri.	Trükri.
Sealing-wax.	Lach.	.....	H.
Sieve.	Pairam.	Dundul.	H.
Ditto for chuck- ing up grain.	Shúp. *	phaïlo.	chüdi.
Spoon.	Chonch.	... ..	
Spout.	Nore.	.....	
Stairs, Ladder.	Hare.	.....	shiri.
Tray.	mujma.	.....	
Veranda.	Dulan.	.....	pusara.
Wall.	Dos.	.....	kanth.
Water jar.	Note.	Bajho.	H.
Fork.	.....	Kutsè.	H.
Window.	Dore.	.....	
Well.	Krúre.	.....	none.
TRADES.			
Baker.	Kaseder: the fem. is termed as in Hind. kanderi.	.....	none.
Barber.	Nawid.	Takúr.	H.
Blacksmith.	kar.	Garba.	H.
Boatman.	Hanz. m. huzni f.		H.
Carpenter.	Chan.	shingkün.	trakn P.
Cowherd.	Goor, Gopanroch.		H.
Fisherman.	Gad Hauz.	.....	none.
Goldsmith.	Sonur.	serghr.	H. & P.
Groom, syce.	Chur badár.	chirpon.	Ghora ka tailia.
Husbandman.			
Labourer, cooley.	mazúr.	kh írpah.	H. & P.
Merchant.	Sodäghr.	t Songpa.	H.
Milkman.	Gour.	.....	{ none in Kishtwar &c. low and disgraceful to sell or weigh out milk.
Milk woman.	Gour Bai }		

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c</i>
Oil-maker.	Til wain.		
Meter.	Watil. <i>m.</i> watidj <i>f.</i>	.....	chūra-phungi.
Painter.	.....	same	Hind.
Physician.	.....	Do.	bèdh.
Potter.	král.	Zūmkūr.	
Shepherd.	Páhūl.	Lukzi.	gūddi.
Shoemaker.	Múch.	th Lūmkūn.	II.
Tailor.	Sútz.	Heelūm.	sochi.
		jikardo.	Kummug.
Washerman.	Dob.	Chūk chūk kūn,	II.
		Gosneakūn.	

Waterman or	} Sáker.		
Beastie. ●		Chúpah.	II. mashki.
Cook. .	.....	Hásari.	aboti.
Musician.	.....	Mon.	II.

## MANKIND.

Bachelor.	Anhor.	.....	kowara.
Boy.	netchú.	Bhú,(Prú mang)	mūtha.
Child.	shúrú.	... ..	do.
Dwarf.	Tsot.	Chūt.	
Girl.	Koor.	Bhúmo.	kūri.
Infant.	Mausmahūn.	Tsúntsò.	none.
Man.	Manco.	Mec.	II.
Maid.	Unhurish koor.		II.
Married man.	none.		H.
Married woman.	none.		II.
Orphan.	Vatim.	same as Hind.	shonda.
		Todtsò.	
Widow.	Mond.	Dokpo.	Rand.
Widower.	.....	Phoriung.	none.
Woman.	Zenana.	Bústring.	P.
„ unmarried.	.....	Phoriang.	
Bridegroom.	.....	Bokhpo.	marai and lara.
Bride.	„ ...	Bokhmo.	Lari.

## ANIMALS.

Camel.		Snango.	H.
Ass.	khūr.	Bornboo.	khota.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c.</i>
Mule.		kuchil.	H.
Baboon or } Monkey }	ponz.	Shèdi (large) Wendon.	H. H.
Bat.	Rat kreel.	‡ Seqbin.	cham chirik.
Bear.	Harpet.	Drengmo.	{ black—reech. red—braboo.
Buffalo.	Mansh.	Mahi.	H.
Bull.	Dund.		H.
Cat.	Brèref, Brore. <i>m.</i>	Billa.	bilari.
Cow.	Gau.	Balang—Bhang (iskar.)	H.
Deer (barking).			
Dog.	Hun.	khi H.	sh.
Elephant.	Host.	Thláng poeko.	H.
Fox.			H.
Goat.	Tsáwulm. <i>m.</i> Tsá- witch <i>f.</i>	Rah, (young) r- cu,	tsèli.
Hare.			H.
Pig.	Saur.		H.
Horse.	Gúr.	s Tah.	H.
Rat.	Guggor.	Biúa.	mosha.
Sheep.	Hond, kät. <i>m.</i> Gobe. <i>f.</i>	Forong (mas.) Lú. (fem.)	H.
Otter.			gho.
Marmot.		Phúa.	H.
Calf.	boo.	Boo.	
Ibex.	kheyl.	skieu.	

## BIRDS.

Crane.			
Crow.	Káw.	Bérakh.	H.
Chikor.	.....	.....	chukkra.
Dove.	.....	.....	Gúgútú.
Duck.	Buttuck.	same as in Hin-	
		dustani.	H.
Eagle.	.....	biendokh.	gidz.
Hawk.			
Heron.			

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c.</i>
Kite.	Gánt.		
Minal.	Hèure.		II.
Moorgha. } fowl.	Kokúr.	Beapo.	P.
Moorghi. }	Kokr.		
Owl.	Rat mogul.	Tsunbiu.	H.
Paddy-bird.			
Parrot.	none.	.....	shúa.
Partridge.		•	H.
Pigeon.	Kotr.	Phúrgon.	alüm.
Quail.	Bátúr		H.
Snipe.			
Red Teal.	Harowitch.		
Sparrow.	kantèr ( <i>m</i> ) Jsar <i>f</i> .	.....	II.
Chikor.		Strukpah.	II.
Magpie.		Kushüp.	

## INSECTS AND REPTILES— &amp;c.

Ant.	Rech.	.....	bibli.
Bee, swarm.	Máshgün.	.....	gun.
Bug.	.....	.....	tsur.
Butterfly.	Pomper.	.....	papri.
Caterpillar.	.....	pütsabúrá.	lúri.
Centipede.	kunhèpin.	.....	shèntwal.
Earwig.	.....	.....	bou h.
Firefly.	Zuting.	... ..	Dioli.
Flea.	Pish.	.....	prishù.
Fly.	mutch.	. ....	H.
Frog.	Dūd.	.....	mandoo.
Grasshopper.	.....	.....	tit.
Hornet.	Túter.		
Leech.	Drúkr.	.....	jok.
Lizard.	.....	.....	Hiluli.
Mosquitoe.	Moitch.	.....	H.
Scorpion.	Bich.		
Snake.	Surf gonda—gúnüs, <i>f</i> .		
Silk-worm.	Potkiom.		

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c.</i>
„ chrysalis.	Potguti or guch.		
„ moth.	Pomper.		
„ eggs of.	Biole, lit. seed of.		
Spider.	Zuller garh.		
Tadpole.	Wátil Gad.		

Tick.	Chichiri.
Worm.	kiom.
Bumble-bee.	Búmbér.
Snail.	kaingao.

## FRUITS AND GRAIN.

Apricot.	tsèrer.	Chúli.	H. •
Apple.	Tsoont.	Káshú	H.
Almond.	Bálm.	.....	H.
Grape.	Dúteh.	újgm.	lakh.
Aniseed.			
Bran.	Kúsh.	.....	Kandú & shodh
Cherry (white.)	Glás.		
Do. (blackheart.)	Otchi.		
Barley.	Wáshkè.	nűs	H.
Greengage.	Eáre.		
Hazel nut.	Virièn.	.....	oornúnieor.
Indian corn.	Mūkoi.	Kütchálícha	Kúkri.
Limes.	.....	.....	H.
Linseed.			
Melon (water.)	Hendwun.	.....	H.
Mulberry.	Tút.	osè	H.
Pear.	Tűng.	neuti.	ali tung.
Plumb.	Ash otche. •		
Peach.	Tsú.	.....	H.
Poppy seed.	Búm.	.....	P.
Quince.	Búm.		
Rice.	Dhan.	.....	H.
Do. (husked.)	Tomül.	.....	H.
Do. (boiled.)	Bhatűr (buttoo).	.....	rinia

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c.</i>
Do. (chaff of.)	Toh.	... ..	Shod.
Walnut.	Dúne.	stargah.	achole.
Water Lily. } Red Lotus. }	Pom Posh.	.....	none.
Eatable seeds } of ditto. }	Pom lokr.	.....	none.
Root of ditto.	Nudr.		
Wheat.	kúmikh.	kro.	P.
„ a pyramidal } shaped grain. }	Tromber.	.....	Drau.
Singara nut.	Gayr.	.....	none.
Peas.	.....	pokstrun.	Krao.
the seed of do.	.....	strumna.	H.
the pod of do.	.....	isganboo.	
Mageet (dye.)	.....	tsút.	H.
a purple pum- } clo on hills. }	.....	Gangpoonlar.	
Melon (sweet.)	kūrbooz.		
Strawberry.	ingeroche.		
Morelle, a kind of toad-stool.	kundgúteh.		

## NATURAL OBJECTS, PHENOMENA.

a descent.	.....	.....	oorwali.
Bank of a river.	Bhút.	Chúsna.	
Bog.	Numbul.	.....	
Brook.	Khol, Ará.	r Yamtso (tsun- tsò) little.	gud
Cave.	Gop.	.....	gal.
Cliff.	Chumb.	.....	mutti Kurwali.
Comet.	Lèt dhar tarook.	skarmah-zhuk- ring, (behind long.)	
Dale or valley.	Nai.	.....	nali.
Forest.	Wan.	Bow. Hind.	H.
Fissure in ice.	Hoi.	sezgah.	
Glacier.	Günj, Tilkütr.	Ganse-Gang.	sorh.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks Kishtwori, &amp;c.</i>
Hill, mountain.	Bál	Rhi, peak high, dong-tonmur. rhi, Peak low.	
Island.	dhaim.	tok.	
Lake.	Sur.	Tso	H.
Moon.	Zún.	T. Sok.	H.
Do. new.	tsunder.		
Pass.	Gul.	La-Luggo.	gulli.
Spring.	Nag.	chú mikh.	nag.
Star.	tarook.	skurmah.	II.
Sun.	Aktab, Doh.	doh kool, rising. doh loos-nima, setting.	Dise.
Stone.	Koin.	r doah.	gorh.
Tree	Kúl.	.....	búth.
Wind.	Wao-push.	Klung.	báth
Wood.	Zicune.	shing.	tsoria.
Quicksand.	.....	Bia tsup.	
Air	Wan.	.....	chonkar.
Water fall.	pausader.	Chúpiar.	
Rain.	nai (in Wurdwan).	thl Tong.	city.
Cloud.	Oboor.	Múnpah (mun mah.)	II.
Dawn.	.....	.....	rot biani gya.
Dew.	Lauè.	.....	trèli.
Eclipse.	Gránmút.	Rás.	II.
Fire.	Túngl-nar.	mèh. ॐ	II.
Flame.	Reli.		
Fog.			
Frost.	soor dog.	Báugnho.	kukr.
Hail.	Doat.	Zerburuse, Zer- buroze.	hushn.
Ice.	Yukh.	Ganse.	sorh.
Lightning.	Woozmul.	Trut, that that strikes—Brúk tsurk.	
Rain.	Rood.	Numker (out falls).	rodh.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c.</i>
Rainbow.	Ram Ram Bhūn.	Tser.	Ram Dhun.
Rainy season.	.....	... ..	H.
Smoke.	Dú.	Tutpalh.	Dhūm.
Snow.	shín.	Káh.	shin and Him.
Thunder.	Gugrari.	Bosut.	gulkatha.
Avalanche.	.....	Rút.	Himán.
Ashes.	soor.	... ..	booi.
Water.	... ..	choo. ཇོ	H.
River.	.....	r Yamtso.	H.
Heavens.	.....	khnum.	ambur.
Earth (quake).	.. ...	Tsch—tsa-gúl.	
Valley.	'.....	Loombah Brok.	
Chaugau.	.....	Shagrun.	
a mat roof.	wüggoo.		
Arch.	.....	.....	none.
Boat.	nau-Dúnga.	Báhtz—naiyo.	none.
Brick.	seèri.	bakboo.	H.
Do. kiln.	.....	.....	awur.
Bridge.	kudl.	Zamba.	H.
Custom-house.	gúzŭrwan jagati.	Lampa.	H.
Ferry.	kurnau.	.. ...	H.
Fort (Bastion.)	killce.	khurh Piu.	H.
Ghaut.	yárbul.	.....	H.
Granary	koot.	... ..	Deense.
„ of bees.	maush gŭn.	.....	gŭn.
House.	Lurhi, nŭns.	nang.	H.
Tool.			
Lime kiln.	.....	... ..	pŭtti.
Mine.	Cop.	same as Den, cave.	
Embankment.	.	.	
A necessary.	.	.	
Road.	Wát.	fr. Bál-Saus.— lam ལམ	Bath.
Shop.	Wán.	.....	hutti P.
Village.	Gam.	jong.	H.



<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kis</i>
Wall.	Dos.	angun.	
Flagstaff.	Alum.		
Rope Bridge.	zampa.	chúg zung.	kheih

## COLORS.

Black.	krúhún.	Napo.	II.
Blue.	.....	súünpó.	H.
Brown.	Toos.	khodrüng.	II.
Light brown.	Badami.	.....	II.
Green.	Zunger.	tse rung.	II.
Red.	Wuzl.	Mapo.	II.
Yellow.	.....	Tserpo.	H.
White.	Chut.	Karpo. *	H.

## METALS, &amp;c.

Iron.	.....	chüks.	II.
Brass.	Sartal.	Bremarús.	II.
Gold.	.....	ser.	H.
Silver.	.....	khmúl.	II.
Copper.	.....	zangz.	II.
Bismuth.	.....	Tsullò.	
Bronze.			
Tin.	.....	.....	none.
Lead.	.....	moordo.	yarsoo.

## VEGETABLES &amp;c.

Root.	Moule.	.....	Zil.
Leaf.	Pan.	.....	II.
Fruit.	mewur.	.....	II.
Bark.	.....	.....	shiker.
Blossom.	posh.	.....	H.
Beans.			
Brinjal.			
Cabbage.	krüm.	.....	kurm.
Chillies.	müritch wangün.	.....	pipli.
Cucumber.	.....	.....	II.
Fern.			
Garlic.			
Gourd.	kasheri alèr.		

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c.</i>
Gram.	.....	... ..	II.
Mushroom.	Hendor.	... ..	none.
Mustard.	Tilgogul-Súnzer.	.....	shūria.
Onion.	perau.	Tsong.	II.
Peas.	kūrrer.		
Radish.	Múji.	.....	II.
Tomata.	Oor wangŭn.		
Turnip.	Gogagi.	.....	tukm.
Kuddoo.	Alèr.		
Bangun.	Wangŭn.	.....	bŭthè.

## DISEASES.

Abscess or Boil.	Phephèr.	mendok.	phimi.
Ague.	... ..	dŭrboo.	sheeth.
Cholera.	tupaile.	chús.	daki see vomí.
Cough.	tzás.	coughz.	khung.
Dysentery.	Duster.	chús.	
Fever.	Zál.	tap.	táo.
Gonorrhœa.	.....	.....	rogh.
Hiccough.	IIikh.	oph.	hiki.
Insanity.	.....	skaumet.	tsul.
Itch, itching.	kushun.	kúoh.	kashan.
Leprosy.	... ..	shipiri.	II.
Freckles.	Mŭchtedji.	.....	jogŭn.
Rheumatism.	.....	klúng.	
Small Pox.	Shitŭl.	.....	II.
Do. (the mark	Shitŭl ok. of.)	.....	II.
Vomiting.	kai.	Sun ma net.	daki.
Wart.	.. ..	.....	mushvu.
Wound.	.....	makha.	II.

## FEASTS, &amp;c.

after 90 days.

Nao roj.

till 90 days. r Bier hùn kùn.

the next 90 days. assŭt.

{ about 1st Augt. River Indus  
is at it highest about this  
time.

*English.*                      *Kashmiri.*                      *Balti.*    *Remarks, Kishtwari, &c.*

TOOLS, IMPLEMENTS, &c.

Adze.	Tor.	Stew.	tongra.
Anvil.	Yèrūn.	Twá.	árūn.
Axe.	mūkkūz.	Tsèrè.	II.
Basket.	Phote and puthdúr.	kari.	II.
Comb.	kūngain, for women.	kūngo, for men.	H.
File.	Phárowar.	.....	áwai.
Saw.	Littler.	arah.	H.
Harrow.	.....	.....	dah.
Hoe.	Rumbè.	chiukse.	gúnderi
Hone.	Billo.	o derh.	pulli.
Knife.	Shrák.	Gri.	II.
Ladder.	Hare.	.....	II.
Loom.	Dhor.	Tüsgün.	küddi.
Mould.	kálib.	.....	külboot
Needle.	Sütz sūn.	küp.	sūnhau.
Oil Press.	Lilwein tsok.	.....	kolū.
Pincers.	Shirūnj.	.....	útser.
Plough.	hulbain.	Tawit.	II.
Razor.	khore.	Go brokti gri, lit.	chore.
		head shaving	
		knife,	
Scissors.	mekraz, dukore.	Dugar.	dúkhri.
Scabbard.	káti.	shúp.	H.
Sickle.    }	Drought.	Zorbah.	Dranti.
Drauti.    }			
Spade.	Liwūn.	.....	Bungori
Thimble.	nyit.	Tsen shúp.	II.
Umbrella.	Tapdan.	Nien tzúne.	chūtri.
Wedge.	.....	.....	putti.
Yoke.	Yipūt.	.....	jun.
Oar.	khoor.	.....	none.
Rope.	.....	Thūkpa.	Raz.
Flute.	nai.	piathling.	bensri.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c.</i>
Hammer.	Dekker.	Tükchoong.	hathora.
Flint and steel.	.....	chümük.	rúnka.
Charcoal.	.....	Tsulbal	angar.
Bellows.	.....	Zwúpah.	
the melting	.....	Lüşkonsh.	
spoon used by			
sonars.			
Raft of skins.	.....	Zükhse.	
Large scissors	.....	Angútzhè.	
used by sonars.			
Drill (Balti).	.....	Tsoras girri.	
Khulta, a basket	.....	chirong.	khara.
carried on back.			
The ropes of do.	.....	thukpah. <span>ཐུག་པ་མ</span>	kutchā.
Trumpet.	.....	Sunah.	H.
Rake.	.....	Brashing.	
A thrashing spot khal.		kieule.	khül.
for the bul			
locks to walk			
round.			
The pole in the	.....	kieule shing.	
centre of.			
Sling.	.....	Horhdo.	{ none is used in Kashmir.
APPAREL, ORNAMENTS, &c.			
Bracelet.	kor.	küngün.	
Cap.	.....	Nuting.	{ made of cotton cloth, Taki.
Coat.	.....	Gonmo.	H.
Gloves.	.....	Lukshoop.	H.
Handkerchief.	athè dudj.	.....	H.
Ring.	Warj.	surúp.	H.
Churi (small Búnger.		odú.	H.
bracelet.)			
The long Kash- Phèrun.			
mir coat, both			
men's and			
women's.			

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c.</i>
The long sleeves to the women's coats.	koraba.		
Embroidered cap.	Orukh chin.		
The red head- band worn by the women.	kasaba.		
A stone with in- scription worn round the neck for grief on the departure of a friend.	Húll, dale.		
The chain orna- ment from the centre of fore- head to the ears.	Damin.		
Earring.	Kunè wuj.	.....	II.
Ladak shoes.	.....	Múshák, pūbbóo.	
Ornament worn on the should- ers by the Brokpah wo- men.	.....	Mellong.	
Broach.	naug chúngo.		
THE MONTHS.			
January.			
February.			
March.			
April.			
May.			
June.			
July.			
August.	.....	Matum.	
September.			

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c</i>
October.			
November.			
December.			

## DAYS OF THE WEEK.

Sunday.	Atwar.	Adi.	Ayth.
Monday.	Sonderwar.	Tsundral.	Asunder.
Tuesday.	Baumwar.	angárn.	Manguli.
Wednesday.	Bodwar.	Bodú.	Bodi.
Thursday.	Breswar.	Brespút.	Brèbut.
Friday.	Júma.	Shúgǔrǔ.	Shúker.
Saturday.	Bútwar.	Shinshèr.	Súncher.

## DIVISIONS OF TIME.

<i>English.</i>	<i>Kashmiri.</i>	<i>Kishtwari.</i>	<i>Balti.</i>
Afternoon.			
Day.	Doh.	Di.	Chik-Zak.
Daybreak.		bñaotera.	Nimasher (sunrise.)
To-day.	ādj.	az.	Dring ཅ་ཨ་ཅ་
To-morrow.	pūgga.	kalè.	Haské giukpa.
Day aftermorrow.	koilket.	trensè.	Suñg.
4th day.		.....	..... atses.
Yesterday.	yown.	hiñ.	
Day before yester- day.	autera.	hoterm.	
Evening.	koftün.	bialè.	Sham.
Midday.	pishñn.	H.	pishine.
Midnight.	adhi rat.	adbrātha.	Sñmpet.
Moment.		H.	Same as Hind.
Morning.	Subhñn.	otera.	Giúkspa, giokhpat.
Night.	rat.	H.	same as Hind. tsñn.
Week.		ath-di.	ab Dhum.
Year.	wèri.	bñri.	Lókhor.
16 days.	pūteh.		
10 o'clock A. M.			Muca thuse.
Month.		H.	Za.
3rd day in ad- vance.		tsotè.	

*English. Kashmiri. Balti. Kishtwari, Remarks, &c.*

MISCELLANEOUS NOUNS.

Abuse.	Leker.	lh Mun mo.	II.
Account.	hisab.	Same as Hind.	sitsi. lèker.
Act.			
Affair.	kār.		H.
Animal.	Jānūwār.	Beil song.	II.
Ball.	Gūile.	polo.	II.
Beak, bill.	Tonth.	kūmchū.	II.
Bit.		Strūp.	II.
Border.	kināre.	tangna.	kundēt.
Breakfast.	Nihère, koj.	Gios, pi, zan.	kūt ūwar.
Bridle.	Lākūn.	Gothūr.	
Bundle.	Guth ther.	Būskia.	būchka.
Burden.	Bore.	kūr.	II.
Buying & selling.	Hyūn to kūmūn.		II.
Change.	Soink		biāje.
Coffin.	Sabood.	chirgos.	II.
Cost-price.	Mol.	Tsām.	II.
Ear of corn.	kunuk kihūl.		Sila.
Kernel.	Goji.	r. Tsoo.	of walnut, Mūgrū; of apricot, gūli.
Pod.	Hembé.	II.	Shimi.
Seed.	Biole.		
Sheaf.	Loire.	the large, chūb, the small, kūshū.	
A well for grain.	.....	deedū.	
Point.	pieut	Tsonse.	
Thorn.	konde.	kanto.	Tsook.
Wood.	Zieūn.	tsori.	Tsing, shing.
Marriage.	Niètr.	II.	Bakstūn.
Thief.	Tsoor.	II.	kierkūn.
Wages.	Maujūb.	chimain.	Niakhta.
Depth.	Sone.	gath.	Khomboo.
Dinner.	khyūn.	II.	Gon phini zan.
Dust.	Lütz.	gūtta.	l. Dum l. dum.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Kishtwari, Remarks, &amp;c.</i>
Dung made up into cakes for burning.	Loor.	Not made into balls.	shlung.
Edge of sword.	Dār.	II.	Kussers.
Back of do.		II	Tuk-spar.
Excrement.	Gūs.	II.	
Filth.	Mul.	II.	
Garland.	Māl.	H.	turmah.
Height.	Tuzzer.	kūrwalli.	tonmoh.
Hem.	Pujirūn.	gèra.	tulli.
Lie.	Apas.	II.	zous.
Life.	Zū.	II.	strok.
Light.	Gāsh.	prugra.	sang.
Name.	Nas.	II.	ming.
Necklace.	hutèphūt.	The long kind, tremmian.	phullo.
Neighbour.	Humsai.	gowandi.	Hind.
Lodger, <i>a liver</i> <i>in a house.</i>	Wāngūj.	būswala.	
Noise.	Krèk.	II.	Skūt.
Plank.	Pūchī.	pūkher.	
Purse, or small bag.	Sozheure.	basni.	
Large bag.	Gotz.	II.	
Rust.	Khan.	II.	khyar.
Scent (bad).	Phak.	II.	Sri.
Shade	Shūnl.	tun Dowar.	junphuk.
Shell (bivalve).	Kaw shup.		
Snail.		garèli.	
Snuff.	Nast.	II.	Naswars ( <i>Hind.</i> ).
Song.	Giouwan.	II. (tlicu.)	by women, heure wunensūn. Kash.
Span.	Pau.	grit.	chūbjhie kruksum.
Square.	Ssokūnjul.		
Stick.	Lour.	dhèsi.	
Summit.	tèn toll.	II.	
Tail.	Lote.	lènhun.	zhin doh.



<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Kishtwari, Remarks, &amp;c.</i>
Thread.	Pāu.	Daga.	skut puh.
Double.	Dow.	Bute da daga.	
Torch of pine wood.	Lūshò.	Lūshi	
Width.	Khol, kūdjēra.	billi.	phūlehūn.
Yolk of an egg.	Zūn, Korgieu.	Nuldia.	marpo, lit. yellow.
Luncheon.	.....	.....	fri zūn.
Saddle.	.....	Kati II.	izgāh.
Stirrup.	.....	II.	Ephūn.
Whip.	.....	Korara.	Thūr.
Martingale.	.....	.....	Blantūk.
Gūlēl.	Reenz.	II.	Liang gong.
Bow.	.....	II. Dhaon.	Zhū
Arrow.	.....	II.	Dah.
Grave.	.....	.....	Mūzer.

## NAMES OF TREES, &amp;c.

Tree.	Kūl & Kūdge.		
Bokine.	Drèk.		
Rose.	P.	meudok	H.
Walnut.	Dhūnkūl.	.....	H.
Poplar.	Prūsth kūl.		
Apricot.	Tsēr kūl.		II.
Birch.	Boorjè kūl.		
Pinus longifolia.	Khyer.		
Horse chesnut.	Wun dhūn.		
Elm.	Bren.		
Willow.	Wheer.		
Plane.	Booin.		
Pear.	Tang kūl and nāk kúl.		
Apple.	Tsoont kūdge.		
Mulberry.	Tūl kūl.		
Almond.	Badūm kul.		
Cherry (white hard.)	Glass kul.		
Pomegranate.	Dharn kul.		
Vine.	Dutchiranth.		

*English. Kashmiri. Balti. Kishtwari, Remarks, &c.*

MISCELLANEOUS ADJECTIVES.

Above.	.....	Kure.	
Aged.	Pūrone.	H.	Sningmah.
Alone.	Kūnezun.	II.	
Angry.	Tsāk.	nosh.	Kaunse.
Bad.	yetch.	kutchā.	shishik.
Best.	Sarè kote jān.	roli.	
Big.	Bod.	II.	Chogo.
Bitter.	Tient.	ambūl.	
Black.	Krihūn.	II.	
Blind.	one.	II.	"Kone," blind of one eye, gserbah.
Blue.	meul.	H.	
Blunt.	monde.	moger	
Cheap.	Log.	H.	Fūntsè.
Clean.	Jaf.	H.	same as Hind. kūrpo.
Cold.	tūrn.	H.	
Crazy.	matūmūt.		
Cross.			
Dark.	Airogūto.	andero.	
Deaf.	Zor.	zerro.	Ghūt.
Dear.	Drog.	II.	Inotpo.
Dear.	Fort.	nayr.	
Deep.	Sone.	.....	Ghūlong.
Dirty.	mūlfn.	II.	Trima.
Dizzy.	Gieūr.	gèra.	
Dry.	Hok.	.....	H.
Dumb.	Kot.	.....	lütter.
Easy.	Sahul.	.....	II.
Empty.	Chonè.	.....	binghi.
Every.	Herks.	.....	H.
Exact.	.....	.....	H.
Few.	Maunè.	.....	II.
Fine (like flour.)	Zaiwūl.	.....	P.
Firm.	Dūrh.	.....	P.
Fit.			

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Kishtwari, Remarks, &amp;c.</i>
Flat.	.....	"Pudri" in hills near Kishtwa.	
Good.	Jān-wāri	.....	rola.
Hard.	Dūrh.	.....	P.
Heavy.	Gob.	Cho.	H.
High.	Jodh.	Thūmo.	
Lame.	Longue.	.....	tonta.
Last.	Poth.	.....	pūtta.
Late.	.....	.....	tūdha.
Lazy.	Shūst.	.....	hul, hak.
Lean.	Tūn.	.....	H.
Least.	Sarè kot lokut.		
Left.	Khown.	.....	H.
Light.	Gash.		
Light (in weight.)	Lūt.	Yāmo.	lokf.
Long.	Zient.	ringmo.	H.
Loose.	Dieul.	.....	H.
Low.	Kūmih tode.	lit. little high.	urè.
Many.	Sutta.	.....	P.
Moist.	Oder.	.....	aderi.
Near.	Nizeek.	nè more.	P.
New.	No.	.....	H. nawè P.
Next.			
Old.	puraun.	.....	H.
Pure.	Shütz,	When water is very pure. nitlolusha.	nirbel. .
Rapid, quick.	Tikan.	.....	
Raw.	Am.	.....	H.
Red.	Wüzül.	.....	H.
Right (hand.)	Dutchen.	.....	H.
Right.	Poz.	.. ..	H.
Same.	Barabud.	.....	H.
Short.	Tsot.	.....	H.
Slow.	Lūt.	.....	lokè.
Sly.	.....	.....	H.
Small.	Lokūt.	Tsüntsè.	H.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Kishtwari, Remarks, &amp;c.</i>
Sour.	Tsok.	.....	H.
Stiff.	Dürh.	.....	II. P.
Stagnant.	Heunür.		
Sweet.	Mieut, modur.	.....	II.
Tall.	Zieul.		
Steep.	.....	.....	kurwali.
Near.	.....	nèmore.	
Thick.	Vieut.	.....	thoola.
Thin.	Thow, zaical.		
Warm.	Gürm.	.....	Tutta P.
Weany	Loos.	Klüt.	hulpak.
Wet.	odür.	.....	aderi.
White.	Chot.	.....	Chiter P.
Wise.	Dana.	.....	II. Siaua.
Handsome.	.....	Güsha.	rola.
Ugly.	.....	Shishik.	asüngo.
Broad.	.....	phülpo.	
Enough (bus.)	.....	Tsüt.	II.
Far.	.....	taring.	II.
With.	.....	chük.	II.
Of.	.....	i like in Persian.	
By, from.	.....	cyna.	
To.	.....	la.	
In.	müuz.	bing.	
Into.	.....	na muru, skil.	II.
Upon.	... ..	tok tu.	purh.
Above.	.....	Goma.	
Below.	.....	Gomba.	ordi.
I.	ba.	nga.	aon.
Thou.	.....	kiang.	tuí.
He.	.....	lo.	uh.
We.	.....	.....	aon.
Ye.	.....	yang.	tu.
They.			
To me.	mènusè.	Kong, èong.	uh.
Hot like pepper.	.....	.....	Tutta.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Kishtwari, Remarks, &amp;c.</i>
Who.	kous.		
Mine.	miown.		
Up hill ascent.	küssün.		
Down hill descent.	wüssün.		
Mine, of me.	maini-maino.		
Yours, of you.	tüni.		
To me.	mi.		
From me.	aonda.		

## VERBS.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	
Come.	Infin. wulsò	ong.	
Go.	gütz.	tsong.	
Bring.	au.	khiong.	
Take away.	heth gütz.	kerh.	
Take hold.	nütheu.	ching.	
Give.	diss.	min.	
Get away.	.....	loksa song.	*
Speak.	dèpeo.	zerh.	
Put.	thao.	yok (hard).	
Make.	.. ...	biose.	
Wipe.	.....	trut.	
Sew.	.....	trüp.	
		tzün set.	leg gia.
Sing.	.....	tong.	

## NUMERALS.

<i>English.</i>	<i>Balti.</i>	<i>Kashmiri.</i>	<i>Ladaki.</i>
1	chick.	ak.	
2	nis. *	zū.	*
3	jsūm.	trè.	
4	bijhi.	tsore.	
5	ghñā.	panse.	..... lūā.
6	jrūk.	shè.	
7 *	abdlūm.	sat.	
8	ab ghiet.	ought.	
9	r goo.	nau.	

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Remarks, Kishtwari, &amp;c.</i>
10	chu.	dah.	
11	chūschiek.	kah.	
12	chūnus.	bah.	
13	chūksūm.	trèwah.	
14	chūgjie.	tsoo ih.	
15	chūga.	pandah.	
16	chūrūk.	shorah.	
17	chūkdūn.	satdah.	
18	chughiet.	ardah.	
19	churgoo.	kūmwuh.	
20	nishoo.	wūh.	
21	nishoo chick.	ak wūh.	
22	nishoo nis.	zū towūk.	
23	nishoo Tsūm.	tro wuh.	
24	&c.	tso wuh.	
25	&c.	poon tso.	
26	.....	shè wuh.	
27	.....	sata wuh.	
28	.....	ato wuh.	
29	.....	kūno tiu.	
30	.....	trū.	
40	nishoo nis.	tso wuh.	
50	ghabchū.	pausa.	
60	nishoo tsūm.	shèth.	
70	abdūm choo.		
80	nichoo jhi.		
90	r goop chu.		
100	abgya.	hath.	
1000	stonchick.	sās.	
1st.	gopa.	godmienk.	
2nd.	gopi shūl.	do yūm.	
3rd.	skilpa.	trè yūm.	
4th.	jhupa.	tsū yūm.	

## RELATIONSHIP.

Father.	Atah.	Bab-maul.	Bab.
Mother.	Aoigo.	mauj.	Mali.

<i>English.</i>	<i>Kashmiri.</i>	<i>Balti.</i>	<i>Kishtwari, Remarks, &amp;c.</i>
Brother.	Ming mo.	Boy.	II.
Sister.	String mo.	Bhènyè.	II.
Grandfather.	Apo.	Bod bab.	
Grandmother.	Api.	nain.	
Great grand- father.	Nespo.	.....	Purdala.
Great grand- mother.	Assi.		
Uncle, } father's	Atah tsūnstè.	pitr.	II.
Aunt, } side.	Ango tsūnstè.	pope.	
Uncle, } mother's	Momo.	mama.	Masi II.
Aunt, } side.	Nèndè.	mos.	
Cousin, father's side.			
Cousin, mother's side.			
Brother-in-law.			
Sister-in-law.			
Daughter.	.....	.....	Kuri.
Son.	.....	.....	Mutter.

<i>Hindustani.</i>	<i>English.</i>	<i>Kashmiri.</i>
Adim.	man.	mauneo.
Awràt.	woman.	zenanah.
Lurka.	boy.	netchu.
Luki.	girl.	koor.
Ghorah.	horse.	goorh.
Bukerie.	goat.	tsawitch.
Gudda.	donkey.	kher.
Bungala.	ditto.	lerh, nuno.
Pahar.	mountain.	koh.
Kishtce.	boat.	nāo.
Pani.	water.	tresh.
Ag.	fire.	tongue.
Burf.	snow.	sheen.
Tunda.	cold.	tur.
Gurm.	hot.	gurm.

<i>Hindustani.</i>	<i>English.</i>	<i>Kashmīrī.</i>
Hawa.	wind.	wās, push.
Menth.	rain.	rōōd.
Durwaza.	door.	birh.
Khana.	food.	kyūn.
Mukkun.	butter.	thein.
Dud.	milk.	dōud.
Lukerie.	wood.	dtzun.
Gosht.	meat.	marz.
Sir.	head.	kulla.
Ankh.	eye.	outch.
Nākh.	nose.	must.
Mou.	mouth.	bhut
Jebh.	tongue.	zeān.
Dant.	tooth.	claud.
Hath.	hand.	hathé.
Gulla.	neck.	hoth.
Honth.	lip.	wooth.
Bāl.	hair.	must.
Murghi.	fowl.	kokr.
Undea.	egg.	tool.
Miseri.	sugar.	mishere.
Ata.	flour.	ought.
Choul.	rice.	tomul.
Bhat.	rice, boiled.	buttoo.
Lussi.	butter milk.	gūrus.
Guncher.	name of a fruit growing on the Burhan hill.	
Burton.	dishes.	bān.
Chūt.	roof.	wuggoo.
Deikhut.	tree.	kūl and kūdge.
Bhains.	buffaloe.	mārsh.
Poule.	bridge.	kuddle.
Rasta.	road.	wath.
Puttur.	stones on a road.	kyēm.
Toro.	break.	zāmun.
Samuk.	snail.	kaingao.



<i>Hindustani.</i>	<i>English.</i>	<i>Kashmiri.</i>
Tokti.	basket.	puthur.
Phūl.	flower.	posh.
Atcha.	good.	jan wari.
Karab.	bad.	weh.
Mota.	fat.	orqut.
Putla.	thin.	thin zaiwnl.
Kutta.	sour.	tsak.
Chota.	small.	lokut.
Burra.	large.	boddur.
Ghaira.	deep.	sūn.
Uterai, chirai.	.....	wussun, kussun.
Lal.	red.	wuzl.
Kala.	black.	kzoohum.
Sufed.	white.	chuth.
Subz.	green.	subz.
Nila.	blue.	niewl.
Tang.	narrow.	tzoom.
Upur.	above.	nure.
Neehi.	below.	bhim.

## NAMES OF TREES.

Chir.	<i>Khyer.</i>
Horse Chesnut.	Wun dhun.
Um.	Bren.
Strawberry.	ingerochc.
ba chusus laiyun.	hum marté hyn.
ba sa qutzo.	hum jaté hyn.
ba sa chus.	hutn hy.
kous sa chus.	kon hy?
wulza ! tikāus.	jaldi ou !
kyasa kom ché ?	kya kam hy ?
tzor rupeiya wusme.	chahor rupeya udā do.
menus é chemina.	hum ko nahin hy.
meown pyala anso.	humārā pyala lao.
ānso ! tikan.	lao ! jaldi.
antisa ?	layā hy ?

chā dissa tikāu.	cha do juldī.
Hūtso.	lé lo.
Thrésh chēso.	Pani peeco.
myoun kāt bozen.	humara bat sunno.
kya suzā.	whas faule.
wūtzo.	’itao.
dūpsa.	bolo.
bè diesah.	aur do.
eu dissah.	idher do.
bé ne sa chuna.	aur nahin hy.

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Pani menh barasta.	rood wālan.
„ barasa.	„ walen.
„ barasenge.	„ pugga walèn.
„ barasna Im.	„ wal

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marna.	
marta.	loyun.
mara.	am loynum.
marenge.	pussa lāye.
maro.	lāyus.

---

jana.	
jata.	gūssun.
gya.	gao.
jaenga.	pugsa gūtzā.
jao.	gūtz.

---

bolo.	wanus.
bolta.	wanan.
bola.	wonum.
bolènga.	wūnnūs.

---

rukho.	thas.
rukhta.	tawun.
rukha.	thawūm.
rukhenḡi.	thanwa.

*Hindustani.**Kashmiri.*

- |                                     |                                   |
|-------------------------------------|-----------------------------------|
| 1. Kit na beehṭa seb?               | Kntz kan anzu isoōut?             |
| 2. Ab tum kahan se ata hy?          | Whin zu kate pet āk?              |
| 3. Hum Kashmire se ata hy.          | Ba Kashere peta ās.               |
| 4. Us killa men kya hy?             | That Viltatus andur kyachu?       |
| 5. Ab kahan jate ho?                | Whim kotzu gutzuk?                |
| 6. Kurra raho, seb dekhlo.          | Wuddeni roj tsoont hāo.           |
| 7. Yih sub krāb hogya.              | Yhim sāra yeteh qyee.             |
| 8. Hum denge rupee 100.             | Bāh demai rupee hath.             |
| 9. Tumara nam kya hy?               | Cheun nāow kya chu?               |
| 10. Idher ou.                       | Yuree wul.                        |
| 11. Wahan jao.                      | Hoar gutz. Pronounced after Yoar. |
| 12. Wahan āo.                       | Hoar wullo.                       |
| 13. Humko bosa do.                  | Mocin dunzè.                      |
| 14. Under lao julḍi gaong se.       | Tool ān, tikān gāmen.             |
| 15. Hum lēaungen.                   | Bāh āney.                         |
| 16. Is gaongmen, gosht milṭa hy.    | Yet gamus munz marz chē mēlen.    |
| 17. Kitna dam hy?                   | Kot or kota mol chi?              |
| 18. Tum hy burra jut wallah.        | Tzu chuk bōḍ assas zor.           |
| 19. Hum itna dam nahin dengēn.      | Bā cut mol demai nē.              |
| 20. Kuffer mut jao.                 | Kuffur ma gutz.                   |
| 21. Dhoop bāhoot gurm hy.           | Tāp jutta gurm chu.               |
| 22. Hum bolṭa thoré.                | Ba chus koshere bolen bumamī.     |
| 23. Ab hum sikṭa hyn.               | Whim ba koshere hes chir chus.    |
| 24. Ag jalao, cha banao.            | Nar zaloo chaè karo.              |
| 25. Kitna dur hy Srinugger?         | Kōṭa chu dur bod sher?            |
| 26. Kishti kyncho julḍi.            | Nās pukno tikan.                  |
| 27. Isturf kuch shikār?             | Yet kin kya shikar?               |
| 28. Purdah nṭāo.                    | Purdah tulso.                     |
| 29. Wuh pind kya nam hy?            | Wuth gamus kya chu nā?            |
| 30. Yih pergunnah kya nam hy?       | Yet pergunnus kya chu nā?         |
| 31. Us pind men kitna ghar hy?      | Wuth gamus kutz muns che?         |
| 32. Dereow ke par.                  | Dereon apār.                      |
| 33. Rusta atcha hy ki nahin?        | Wuth che jān ki nah?              |
| 34. Us pahar tuluk rusta chungā hy? | Kohus tul wāth cha jān?           |
| 35. Us se lē lo lui.                | Um, is nishè lē tsāder.           |

36. Hum kul nishān ko jaengèn. Ba gutzo pugga nishames pet.  
 37. Tum kul gyà nishān ko. Zu yo gya nishames pet.  
 38. Us ko do 3 pice. Hum is di trè pice.  
 39. Wuh admi aur nahin milenga. Humus maunco mèlen nò bè.  
 40. Stand is jugah per rukho. Yeth jâc pet mau stand.  
 41. Sidha nahin hy. Sud chu nè.  
 42. Zara is taruf, zara ùs taruf. Yeth kun bèhun yè porkun be hun.  
 43. Ab atcha ho gya. Whin go jân.  
 44. Us turuf jas dekho ke nishan Hutnt gutz wutch nishan chenuze-  
     nuzr âta ke nahin. rey i kin nay.  
 45. Is dereon men bahut pani hy, Yeth dereowus muns setta âb chus  
     kahan us par lungègen. kut kin terow âpor.  
 46. Kitna chaul bâki hy? Kota chu bè tomul?  
 47. Annah ko kitna dèta. Kut di kâumes.  
 48. Isa juth muth mut kaho. Yentn apas mapas mè wun.  
 49. "Jemâl me" ath seer tomol Jemâl nur ath seer tomul meulis,  
     mila.  
 50. Wuh sirf 3 sir mila. Fakut mèlis trè dir.  
 51. Wuh admi kyun rota hy? Ho maunco kya zè wuddân?  
 52. Kissè shuks ne uskè lui lè gya. Kumtain shuks umsams nec yè  
     tsadur.  
 53. Yih lukerie bigi nay julta. Zun che odör duzân chu neu.  
 54. Yih lukerie sukhi julta. Yè zeun chè huk duzân.  
 55. Is ghar khûb bûna hûa. Yeth ghrus zubr chè lodmut.  
 56. Das burus hua. Dah whèri gyi.  
 57. Wazier zerawur hukm dya, tub Wazier j hukm dit mok tun adgo  
     sadak ko gya, aur wahan mar sadak ad zunuk tata marat.  
     dala tha.  
 58. Hum log Kashmir se aya Asigyi Kashiri am tin go zu ryut  
     12 din. bah doh.  
 59. Deres lung jata hum log ko. Asi luge ak doh apoe tûrienus.  
 60. Kanah pukka hy, ki nahin? Khyun ronui ki, nè nay?  
 61. Khana kahega. Khyun khèmau.  
 62. Burtun lèjao. Bân neh.  
 63. Humara pyala lè yya. My oun pyāla nyun.  
 64. Hum wahan jaengèn. Ba gûsi hore.  
 65. Tum atcha hy. Zu chûk wārè.

66. Wüh do zenani wahan biti hy Gim zū zenani che biyet kūm,  
kon hy. che ?
67. Tum kyun nay hukm mante ? Zakon chuk hukm manau ?
68. Tum jate ? Za gusuk ?
69. Hum jate. Ma gūsò.
70. Aur kya chaye ? Bè kya gutzi ?
71. Aur bolo. Bè iwun.
72. Humare hath gurm hy ? Nugoem hāthè gurm chò ?
73. Agr tum awaj kurtè, log sunen-Agr zū krèk tūlūk, log boza  
gè ; chup kuro. sūp kr.
74. Lung koun awenge ? Sūt kūsècūm ?
75. Do manji nao lejao. Zu nauj ni sūt.
76. Utero kiste ko. Wussū nawò.
77. Tum nahin awenge. Za ik nè.
78. Burkha pahnèngè. Burkha aiman.
79. Idher hy phunsi. Qethò-nūs chūm oeppor.
80. Anè janè dur. Ewūn gūsūn lūg dūr.
81. Bohat kujli ato. Sutter kūshun iwūn.
82. Beech jao. Munj pukku.
83. Barah pichi hy. Bah shè pūtta.
84. Dekho, wuh aurat kysa chulta. Wūtchu zinan kit pet pukku
85. Ghr per rukhunge. Lwū pet thauwun.
86. Kitna roj wahan rewhenge ? Kotzen dohen rojen thate ?
- |           |             |
|-----------|-------------|
| 1½ seer   | = 1 munmut. |
| 2 munnuts | = 1 panzoo. |
| 2 panzoos | = 1 truck.  |
| 16 trucks | = 1 kurwah. |

## NUMERALS.

1 ak.	10 dah.
2 zu.	11 kah.
3 tre.	12 bah.
4 tzor.	13 trouwah.
5 panch.	14 tzadah.
6 shéh.	15 pandah.
7 sat.	16 shewrah.
8 aughe.	17 suddah.
9 nau.	18 ardah.

19 kunoo.	29 kuntre.
20 wuh.	30 treu.
21 akwuh.	40 satagi.
22 zutuowuh.	50 panica.
23 trewuh.	60 sheth.
24 tzowuh.	70 satdu.
25 panchzu.	80 athdie.
26 shewuh.	90 nandie.
27 satawuh.	100 hath.
28 atawuh.	1000 sas.

*Notes on Gupta Inscriptions from Aphasar and Behar.—*  
*By Bābu Rājendralāla Mitra.*

Some time ago Major General A. Cunningham placed at my disposal, for translation, the transcript of a Sanskrit inscription from Aphasar, in the Behar district. It had been made over to him by the late Major Markham Kittoe, who had brought away the original "to re-examine and to restore it as much as possible, before having it fixed on a pedestal near the Varāha in Aphasar,"\* but who, owing to ill-health and subsequent departure from India, could do neither. The original is no longer forthcoming. When General Cunningham enquired for it during his antiquarian tour in 1861-62, the people of Aphasar "were unanimous in stating that Major Kittoe had removed it to Nowāda for the purpose of copying it;" but no trace of it could be met with either at that place or Gya or Benares. The nature of the characters with which it was inscribed is not known, and, judging from the state of the transcript, it was not perfect, there being several lacunæ in the middle; but what remains of it in the transcript may be relied upon as authentic, having been prepared by Major Kittoe himself, whose thorough knowledge of Indian palæography is well known. The document has no date, but it is nevertheless of interest, as it supplies a list of Gupta sovereigns of Behar, hitherto unknown to antiquarians.

The first of this line of kings was Kṛishṇa Gupta. Nothing is said of where and when he reigned; but he is described as a man

\* Ante Vol. XXXII. p. xxxviii.

of noble lineage, great learning, and uncommon firmness of purpose. He was succeeded in his dominion successively by his son Hashka Gupta and grandson Jívita Gupta, both of whom, in the hyperbolic language of the poet, were mighty heroes. The son of Jívita was Kumára Gupta, who waged war against one Çánta Varmá, and of whom the only thing notable is, that he “entered into a fire of dried dung as in a sea.” The panegyrist does not explain whether this was done as an act of religious suicide, or merely as a penance, a part of the rite called Panchatapá. His son Dámodara fought with the Western Hunas at a place called Maushari, but evidently only to be killed, for the poet euphuistically notices his fainting on the occasion, and subsequently reviving under the touch of heavenly nymphs. Where this Maushari was situated, I cannot make out; nor can I ascertain the *locale* of a river or sea named Lauhitya, on the bank or shore of which hermits sang in praise of the king’s son Mahásena Gupta. The last, after reigning for some years, left his kingdom to his son Mádhava Gupta. A gap in the inscription here leaves it doubtful whether Hashka Gupta, the name which follows, is that of the son of Mádhava or of a mere successor; and some others in a lower part of the record have rendered a great portion of the praises bestowed on Aditya Sena, the son of Hashka, quite unintelligible. What remains is of the usual unmeaning type, “unrivalled heroism,” “universal dominion” and the like, which probably existed nowhere but in the fertile imagination of the poet. Aditya was a follower of Vishnu, and the document records the dedication, by him, of a temple to the idol of his adorations. It notices also that his mother Mahádeví built a monastery for the accommodation of pious hermits, and his wife Kona Deví, with a keener eye to general utility than was owned by her lord and mother-in-law, had a large tank excavated for the use of the public. The engraver of the document was Sukshma Siva.

The names of the several princes of the dynasty may be tabulated thus:—

- I. Krishna Gupta.
- II. Hashka Gupta, son of I.
- III. Jívita Gupta, son of II.
- IV. Kumára Gupta, son of III.
- V. Dámodara Gupta, son of IV.

VI. Mahásena Gupta, son of V.

VII. Mádhava Gupta, son of VI.

\* \* \* \* \*

(?)

VIII. Hushka Gupta, II. son of — ?

IX. Aditya Sena, son of VIII.

In the entire absence of data, it is impossible at present to determine the era of these princes, or the position they occupied in the history of ancient Magadha. There is nothing but the identity of the family name to justify the supposition that they were connected with the Guptas of the Bhitári Lát, but it is worthy of note that the latter, whose names are made familiar to us by coins and inscriptions found in Gházipur, Allahabad and Sánchi, did at one time extend their sway to Behar. The documents which enable me to make this assertion, are remarkable; they were found inscribed on a sandstone pillar lying in the Behar fort, and first brought to notice by Mr. E. L. Ravenshaw, in 1839. Mr. H. Torrens, then editor of this Journal, in publishing a translation of one of them, said, "I have now the pleasure of laying before the readers of the Journal a rendering of one of these (Behar) inscriptions as decyphered by Pundit Kamalá Kánta Vidyálañkára, and Bábu Hrambanáth. They succeeded in giving this interpretation after a great expense of time and labour. The characters are of a class not hitherto met with, and I confess I cannot submit this first attempt to interpret them, without considerable diffidence. The inscription is unfortunately destitute of both name and date, and does not, moreover, afford any clue by which the period of its record can be traced." According to the rendering published, the document contained a number of moral maxims, beginning with, "Be patient when angry. Perform religious sacrifices as prescribed. Be liberal in religious performances," &c., &c. The whole of this reading was, however, throughout imaginary, and the deductions made from it are, consequently, utterly worthless. Major C. Hollings noticed the inscriptions in 1860, and got a Pandit at Patna to decypher them for him. But his endeavours proved even less useful than the first. The worthy Pandit, in an elaborate translation, made out that the documents recorded the spot where king Jarásandha buried some fabulous amount of treasure which would be guarded by a dragon, until a European would come to bring it to light. The attempt



at imposition was so transparent in this instance, that it could not possibly be mistaken. Major Hollings, therefore, got a baked clay impression of the inscriptions prepared and sent to the Asiatic Society, in 1861. This at once showed that they were records of the Gupta sovereigns of Behar, and had nothing to do with moral maxims, or hidden treasure. An ink impression of the inscriptions was subsequently communicated to me by the Hon'ble Justice Sambhunáth Pandit. But it contained nothing that was not decypherable on the clay facsimile, and did not help me to add much to the tentative reading which I had already prepared. The accompanying plate is a reduced facsimile of the clay impression, and every letter on it has been carefully compared with those on the ink tracing. A copy of this plate was placed by me at the disposal of General Cunningham, and he had an opportunity of comparing it with the original during his Archaeological Tour in 1861-62. The following is an extract from his report on the subject.

“One mile due east from the Dargâ, and about a hundred yards inside the northern gate of the old fort of Bihar, there lies a sandstone pillar which bears two separate inscriptions of the Gupta dynasty. Unfortunately the surface of the stone has peeled off considerably, so that both of the inscriptions are incomplete. The upper inscription, which is of Kumára Gupta, has lost both ends of every line, being probably about one-third of the whole. The lower inscription has lost only the left upper corner, and some unknown amount at the bottom, where the pillar is broken off. But as the remaining portion of the upper part is letter for letter the same as the opening of the Bhitari pillar inscription, nearly the whole of the missing part of the left upper corner can be restored at once. This record belongs to Skanda Gupta, the son and successor of Kumára Gupta.”

In the plate the upper inscription is numbered 1 and the lower one 2. The former extends to 13 lines and bears the name of Kumára Gupta whose eulogium it is perhaps intended to be. I say “perhaps” deliberately, for a large portion at the beginning of every line being lost, and it being impossible to give a connected translation, I cannot be certain that the record did not contain some other name which has now been lost. In the fourth line the word *Kavya* or “funeral cake” may refer to Kumára Gupta whose name occurs in the 3rd line, and the record

may consequently belong to Skanda Gupta, but in the absence of connecting words such a supposition cannot be justifiable. The document is most probably in verse, and the word Chandra in the first line suggests the idea that the Kumára Gupta of the record was the son of Chandra Gupta II. of the Kuan Pillar. The figure for the year in the last line is perfectly clear, and is indicated, as usual in Gupta records, by three parallel lines, but the letters before and after it are very doubtful, and no reliance can be placed on the date. The letter preceding the 3 may be a 60, and some of the letters after the letter for S'aka may be figures, but I am not certain of their value. As Kumára was the sixth in a direct line from S'ri Gupta, the founder of the Gupta dynasty, it is certain that the date, whether 3 or 63, cannot be of the Gupta era, for according to the Udayagiri and the Sanchi inscriptions Chandra Gupta II. lived from 82 to 93 of that era. It must therefore be either of the reigning sovereign, or of some now unknown era other than that used in the Allahabad column inscription.

The second inscription is even more imperfect than the first, and has no date; but there is no doubt of its being an edict of the Gupta who recorded the Bhitari inscription, or of one of his descendants. General Cunningham imagines it to be a counterpart of the Bhitari record, and says that the portion extant "is letter for letter the same as the opening of the Bhitari pillar inscription." Such, however, is not the case. It is true, the first line has an epithet which occurs in the first line of the Bhitari inscription, and lines 3 to 12 are made up of words whose counterparts are seen in that record. It may also be admitted that Kumára Devi, the wife of Chandra Gupta. I, is named in the 5th line, and the word Gupta occurs in the 10th, which leave no doubt as to the race of the sovereign who recorded the document. But as no specific name is legible, and the words common to the two records are mostly adjectives expressive of royal qualities which are generally attributed to all Hindu sovereigns, their evidence cannot be accepted as conclusive as to the identity of the two records. Were it otherwise, still it would be of no use, for we have positive proof to shew that they are not identical. The second line of the Behar record has a word which does not occur in the first two lines of the Bhitari inscription, and the matter from the 13th line to the end,

if my reading be correct, is new. In the 18th line there is mention made of Bhaṭṭa Guhila Swámin, whose name does not occur in the Bhitari column. The conclusion therefore that I come to is, that the two documents were put up by the same race and very likely by the same king, but on different occasions, and to record different occurrences. There is nothing in the record to justify the positive opinion of General Cunningham that it belongs to Skanda Gupta, son of Kumára Gupta.

*Translation of an Inscription from Aphasar.*

There lived S'ri Kṛishṇa Gupta, a king, whose army was crowded by a thousand tuskers, who was served by men of great learning, whose lineage was noble, and who was firm and ascendant as the mountain peak. His arms, which had overcome the ardour of numberless rivals, were even as those of the lion; for thereby he had pounded the bulging skulls of hosts of maddened elephants of his inveterate enemies.

2. Even as rose the moon from the ocean so from him descended a son, S'ri Ushaḥka Gupta Deva, possessed of many digits, (arts,)\* spotless and free from (the) clouds (of ignorance).

3. He was the holder of the hard-stretched bow which cared not for the fit time of death (for his enemies). He could pour showers of dreadful arrows, and was looked upon with tearful eyes by those who had been deprived of their homes, their wealth and their masters. His glorious success in fierce warfare was as it were recorded in his breast in the form of innumerable scars, as prominently and as indelibly as the perforations of insects in the knots (of trees). •

4. His son was S'ri Jivita Gupta, the crowning jewel of kings, who was like the moon in the forest of water lilies represented by the faces of the wives of his murdered opponents.

5. The dreadful fever of his glory forsook not his adversaries, whether they sought shelter in the sea-shore washed by the waves of the water where dwell the pearl shells, and strewn over with stems of plantain trees cast around by the trunks of elephants which roam amidst lofty palms; or on the mountain top cooled by the water flowing from eternal snow.

6. This superhuman act of his—the leap from the shore of the

\* The word in the original is *kalkā*, which means both an art as well as the digits of the moon, hence applicable both to man and the moon.

sea where dwells all wealth, to the top of the Himalaya,—in chase of his enemies, is seen by mankind with wonder even to this day ; it is like that of the son of Pavana (Hanumāna) who spanned the Gulf of Manaar by a single leap).

7. That king gave birth to a son, even as did Hara to the rider of the peacock.\* Forward in battle and of renowned strength, this son was named Kumāra Gupta.

8. He, with a view to obtain Lakshmi, assuming the form of Mount Mandāra, churned the milky ocean produced by the forces of the moon-like King Śānta Varmā,†—an ocean over which was spread a moving mass of waves (his soldiers) comparable to a line of plantain trees put in motion by a passing wind, and in it were whirlpools formed of rising clouds of dust (raised by the soldiers), while the furious and mighty elephants (of his army) represented sunken rocks.

9. He was firm in truth and valour, and was engaged in the performance of ceremonies for the relief of the needy ; he worshipped with the flower of truth. He entered into a fire of dried dung as in a sea.‡

10. Of that king Ś'ri Dāmōdara Gupta was the son. Even as Dāmōdara§ killed the Daityas ; so did he destroy his opponents.

11. While gloriously dispersing, at the battle of Maṃshari, the roaring line of elephants of the fierce army of the western Hunas, he fainted, and selected the nymphs of heaven (as his own, saying) they are “mine,” and the pleasant touch of their lotus-like hands revived him.

12. That king gave away in marriage numberless Brahmin daughters of youth and beauty, bedecked with ornaments, and adorned with hundreds of necklaces.

13. Ś'ri Mahāsena Gupta was his most valiant son. In all chivalric assemblies, he obtained the credit for noble heroism.

14. Hermits and their wives, lying on the cool shady banks of the

\* Kārtikeya, alias Kumāra, god of war.

† The moon rose from the ocean when it was churned by the gods with a view to extract ambrosia from it. Mount Mandāra, the backbone of the earth, was on the occasion used as the churning stick.

‡ It is not certain whether the author wishes to imply that the king burnt himself to death, or merely performed the penance called Panchatapā.

§ Yasodā the mother of Krishna, once kept him tied to a churn with a rope round his waist to restrain him from stealing butter ; hence the epithet *Dāma*, “a rope” and “*udara*” “belly” or “waist.” The exploits of Krishna with the Daityas sent by Kāṇsa, king of Mathurā, to kill him, are well-known.

Lauhitya, with open beaming eyes, sang in praise of his wide-spreading fame,—that fame which was inscribed by the praises of his victory over S'ri Varmā, and which to this day is adorned by garlands of well blown wild jessamins and water-lilies, as with a necklace of moons.

15. Of him was born S'ri Mādhava Gupta, the highest essence of valour, even as Mādhava was born of Kāmadeva. His two feet rested on the greatest heroes.

16. In war he was the foremost among the praiseworthy, and, as the receptacle of goodness and bestower of all he acquired, he was the greatest among the great. He was the family abode of wealth (Lakshmi), truthfulness (Satva), and learning (Saraswati), and the steadfast bridge of virtue. There was none above him to respect, for he, the meritorious, moved foremost among the meritorious on the earth.

17. Like Mādhava (Kṛishṇa) he bore the sign of the thunderbolt on his palm,\* and carried a bow made of horn; while the sabre by his side was for the destruction of his enemies, and the good of his friends. The jewel *Nandaka*.....

(About a dozen letters at the end of the line and over three-fourths of the next line are missing. Three lines then follow naming a Hashka Deva and his son Āditya Sena. Next, there are eleven lines, so full of lacunæ that no connected meaning can be made out of them: then the concluding line of a s'loka): his son, who owned the illimitable earth for his dominion, and was a protector of mankind.

In battle the two arms of the king shone resplendent, having ripped open the orbs of maddened royal elephants; the halo of his fame was lustrous with the glory of his numerous conquered foes; his feet rested on the heads of innumerable kings; the fire of his majesty was vast; fortunate was he, and in warfare pure and of renowned action.†

By that king, who in his attempt to make his noble and most wonderful Glory, which was as white as the light of the autumnal moon, and wide spreading as the earth, dwell with his Fortune,‡ had so irritated her that she, from a feeling of rivalry, went to live for ever

\* An emblem of royalty according to Indian Palmistry.

† The word *idam* at the beginning of this sloka is not construable.

‡ In Sanskrit the words glory, *Kīrti*, and fortune, *lakṣmī*, are in the feminine gender. The poet represents them as the two wives of the king, and then by a pretty conceit makes them quarrel from a feeling of rivalry and separate, Fortune, to live with her lord, and Glory, to go to the farthest limits of the earth.

beyond the bounds of the ocean, was this best of temples caused to be erected for Vishṇu.

His mother S'rimatī Mahādevī caused a Maṭha or monastery to be built, and dedicated it, beautiful as a heavenly mansion, to the use of the virtuous. By the Queen S'ri Kona Devī, the beloved wife of the king, a beautiful tank was caused to be excavated. Its water, pure and lustrous, as if it were the picture of the white sea shell or the moon, was drunk by men and hermits—and in its flowing waves sported the jumping alligator and the dancing *timi* fish.

As long as the crescent shall adorn the forehead of Sīva, as long as S'ri shall dwell in the heart of Vishṇu, as long as Saraswatī shall abide in the mouth of Brahmā, \* \* \* \* as long as the earth shall rest on the head of the lord of serpents,\* as long as the lightning shall dwell in the womb of clouds, even so long shall king Āditya Sena shed around this spotless glory of his.

The thoroughly virtuous, and intelligent† Sukshma Siva Gaura engraved this eulogium in large† and artistic letters.

*Transcript of the Aphasar Inscription.*

आसोदन्तिसहस्रगाढकटको विद्याधुराध्यासितः  
सदंशस्थिर उन्नतो गिरिरिव श्रीकृष्णगुप्ते नृपः ॥  
दत्तारामिमदान्ववारणघटाकुम्भस्थलीः चुन्दता  
यस्यासङ्गरिपुप्रतापजयिना देव्या मृगेन्द्रायितम् ॥ १ ॥  
सकलः कलङ्करहितः चततिमिरस्त्रेयधेःशशाङ्क इव ।  
तस्मादुदयादिस्तुतो देवः ओहष्कगुप्त इति ॥ १ ॥  
यो योग्याकालहेलावमतददधनुर्भूमिवाणेषपातो  
मूर्तेः स्वस्वामिलक्ष्मिवसतिविमुखितेरीचितः सायुपातुम् ॥  
घोराणामाहवानां लिखितमिव जयं स्नाय्यमाविर्दधानो  
वक्षस्यदामशस्त्रप्रणकठिनकिण्वन्यिलेखाच्छलेन ॥ २ ॥  
श्रीजावितगुप्तेभूत् चित्तीशचूडामणिः सुतसस्य ।  
यो दत्तवैरीनारोमुखमलिनवनैकशिशिरकरः ॥ ४ ॥  
मुक्तागर्भपयःप्रवाहशिशिरास्तुङ्गतालीवन-  
धाम्यद्वनिकरावलूनकदलीकाण्डास्तु वेलास्तपि ।  
स्थितस्फारतुषारनिर्भरपयः शीतेऽपि शैले स्थिता  
न्यस्याच्चैर्द्वेषतो मुनेच न महाघारः प्रतापज्वरः ॥ ५ ॥  
यस्यातिमानुषं कर्षं दृश्यते विस्मयाज्जनैः ॥

\* Alluding to the Paurāṇic legend of the earth resting on the head of a thousand-headed snake.

† Or beautiful, विकट.

‡ वैरि recte.

अद्यापि कोशवर्द्धनतटात् सुतं पवनजस्येव ॥ ६ ॥  
 प्रख्यातशक्तिमाजिषु पुरःसरं श्रीकुमारगुप्तमिति ।  
 अजनयदेकं स नृपो हर इव शिखिवाहनं तनयम् ॥ ७ ॥  
 उत्सर्पद्वातहेलाचलितकदलिकावीचिमालावितानः  
 प्राद्यद्वूलोजलौघध्रमितगंरुमहामत्तमातङ्गशैलः ।  
 भीमः श्रीशान्तवर्मोच्चित्तिपतिशशिनः सेन्यदुग्धादसिन्धुः  
 लक्ष्मीभमप्राप्तिहेतुः सपदि विमथितो मन्दरीभूय येन ॥ ८ ॥  
 शौर्यसत्यव्रतधरो यः प्रयागगतोधने ।  
 अश्वसोव करोषाग्नौ मग्नः सत्पुष्पपूजितः ॥ ९ ॥  
 श्रीदामोदरगुप्तोऽभूत्तनयस्तस्य भूपतः ।  
 येन दामोदरेणैव दैत्या इव हता द्विषः ॥ १० ॥  
 यो मौषरेः समितिषूद्धतरुणमैन्यं  
 बलगतृप्तां विघटयन्नरवारणानाम् ।  
 समूर्च्छितः सुरबधुर्वरयन्ममेति  
 तत्पाणिपङ्कजसुखेस्पर्शविबुद्धः\* ॥ ११ ॥  
 गुणवद्द्विजकन्यानां नानालङ्कारयौवनवतीनाम् ।  
 परिणायितवान् स भूपः शतं निष्ठाग्रहाराणाम् ॥ १२ ॥  
 श्रीमहासेनगुप्तोऽभूत्तस्मिन्दीरायणोः सुतः ।  
 सर्ववीरसमाजेषु लेभे यो धुरिवीरताम् ॥ १३ ॥  
 श्रीमत्सुस्थितवर्त्मयुद्धविजयस्त्राघापदाङ्गं मुहु-  
 र्यस्याद्यापि विबुद्धकुन्दकुमुदाचित्तेन्दुदामायितम् ।  
 लौहित्यस्य तटेषु शतलतलेषूपपूजनेनैकै-  
 ष्वाद्यासुप्रविबुद्धसिद्धमिद्युनेः स्फीतं यशो गीयते ॥ १४ ॥  
 वसुदेवादिव तस्माच्छूरैस्सर्वत उच्चैर्दत्तचरणयुगः ।  
 श्रीमाधवगुप्तोऽभून्माधव इव विक्रमैकरसः ॥ १५ ॥  
 धत्ते सद्भिरनुसृतां धुरि रणे स्त्राघावतामघणीः  
 सौजन्यस्य निधानसर्वनिचयत्यागे धुराणां धुरम् ।  
 लक्ष्मीसत्वसरस्वतीं कुलगट्टं धर्मस्य सेतुर्दृढः  
 पूज्यो नास्ति स भूतले गुणगणैरघेसरः सद्गुणः ॥ १६ ॥  
 वज्रः पाणितलेन सोऽप्युदवहत्तस्यापि शार्ङ्गं धनु-  
 र्नाशायामुहदां सुखाय सुहृदां तस्याप्यसिर्नन्दकः ।

प्राप्ते विद्विषतां

\* \* \* हरिमंसा धन्याः प्रणेमुर्जनाः ॥ अनौम \* \* \* या विनिहता बलिना-  
 द्विषन्तः । हत्वा नमस्कृत्यपुरभिष्य बधाय वीरः । श्रीहृक्कादेव निजसात्तमसा प्रमादे  
 श्रीमान् वरेन्द्रदलिनोरिकरीन्द्रकुशमुक्तारजः ।

पटलपांशुलमण्डलाग्रः । आदित्यसेन इति तत्तनयः चितीशचूडामणिर्युद्धादि  
 \* \* \* मागतमरिध्वंसेत्यमात्रं यशः ॥ स्त्राघं सर्वधनुस्ततां पुर इति स्त्राघां परां  
 विधत्ते । आशीर्वादपरं पराचिस

\* A letter wanting to complete the measure.

दमाया समः ॥ आदौ खेदच्छलेन ध्वजपटशिक्षाया मार्जतोदानपङ्क्तं खङ्गं क्षुषेन-  
गुप्तशकलसि कलितं न्यस्य Here several lines missing. १

मत्तमातङ्गघातं तद्गन्धाष्टसर्पद्वयलपरिमलधान्तमालिजालम् । आबद्धभीम-  
विकटधुकुटीकटोर्मिं

\* \* वल्लभत्यवगौघाष्टीषु पेशलतया परिहासशैलः । सत्यभर्तृप्रता यस्य मुखोप-  
वनतोपमा ॥ परिहासाय प \* \* \* भिन्नः सकलरिपुबलध्वंसचेतुर्गरीयान्निखि-  
श्रोत्खातघातश्रमजनितजतोपूजितस्वप्रतापः । युद्धे मत्तेभकुम्भस्थल

\* \* \* पुत्रलक्ष्मिमितबसुमतौमण्डलो लोकपालः ॥ आजौ मत्तगजेन्द्रकुम्भदलन-  
स्थीतस्फुरदौर्ध्वगो ध्वलानेकरिपुप्रभावविलसत्प्रख्यातां यशेमण्डलम् । न्यस्त्राशेष-  
नरेन्द्रमौलिचरणस्फारप्रतापानलो लक्ष्मीवान् । समराभिमानविमलप्रख्यातकीर्ति-  
वर्धपः ॥ येनेदं शरदिन्दुविम्बधवला प्रख्यातभूमण्डली लक्ष्मीसङ्गमकाङ्क्षया  
सुमहती कीर्तिश्चिरं कोपिता । याता सागरपारमद्भुततमा सापान्यवैरादहो  
तेनेदं भवनेत्तमं चितिभुजा विष्णोः कृते कारितम् ॥ तज्जनन्या महादेव्या श्री-  
मत्याकारितो मठः । धार्मिकेभ्यः स्वयं दत्तः सुरलोकगटहोपमः ॥ शङ्खेन्द्रप्रतिम-  
प्रभाप्रतिसमस्फारस्फुरच्छीकरं । नक्रकान्तिचलत्तरङ्गनिलसत्प्रचित्रव्यत्तिमि । रा-  
ज्राखानितमद्भुतं सुतपसा पेपोयमानं जनैस्सखैव प्रियभार्यया नरपतेः श्रीकोणदेव्या  
सरः ॥ यावच्चन्द्रकला हरस्य शिरसि श्रीशार्ङ्गिणोवचसि । ब्रह्मास्ये च सरस्वती कृत  
दक्षभूर्भुजगाधिपस्य च तडियाबह्वनस्योदरे तावत्कीर्तिमिहा-  
तनेन विधवलामादित्यसेनो नृपः ॥ सूक्ष्मशिवेन गौरेन\* प्रशस्तिर्विकटाचरा ।  
न्यस्या गुणमिता सम्यग्धार्मिकेण सुधीमता ॥

*Tentative Reading of the Behar Inscription, No. 1.*

- (१) इति चन्द्र + न्द्रानुजत + धन्यो(?) गुणरत्नद्वः
- (२) न्यपिप्शुनभुविस्वांसेन यः ख्यातः स्वर्किं कु
- (३) सवयस्यो गूढविक्रमेण कुमारगुप्ते
- (४) एतस्य देवस्य च ह्यथकथैः सदाहगेभ्यो सि
- (५) चीकरद्देवनिकेतन सदंशे त्रिवंशोपम्यः
- (६) —हं सोऽस्तम्भवरोच्छेयप्रभासे त्रिमण्ड
- (७) वृक्षाणां कुसुमभरानतायसुभयकदम्बस्तवक
- (८) भट्टार्यायाभातिगृहं नवाभनिर्माकनिर्मल
- (९) अनुप्रधानैर्भुविमन्त्रिभिश्च दाकात्मसु +
- (१०) भुजोच्छायमेव चक्रे भट्टार्यादिः
- (११) गुप्तवटे करम्भनिपतिताम्बकटकः कटः
- (१२) सेतुः स्वकर्तुर्यच्चल्लिहदं सकुतं भजतु तत्रै
- (१३) कायद्वारे सन्धाने ३ सकलनेभिर्नोप



- (१) + ऐथियामप्रतिरथस्य  
 (२) + नकसयस्य हतान्तः  
 (३) • भद्रश्चमेधा हर्तुः  
 (४) केचपौत्रस्य महाराजा  
 (५) + देव्यां कुमारदेव्यमुत्पन्नस्य  
 (६) + तत्परिगृहीतो महादेव्यां  
 (७) मभागवतो महाराजा  
 (८) + महादेव्या प्रः भवदेव्या  
 (९) + पुत्रः तत्पादानुद्धातः  
 (१०) — — त र गुप्तः  
 (११) + + : परमभागवंतो  
 (१२) + + + भागृहे काजपरकुशले  
 (१३) + + य निर्विश्रामक्षेत्र  
 (१४) ह्य + + + उपरिकुमारामात्य  
 (१५) द्विकुलवणिकपारिभारिक  
 (१६) ग्रहारिकशैलिकगौलिकसन्येस्य  
 (१७) वासकादीनन्दादिदप्रासादोपजीविनः  
 (१८) तस्मात् विज्ञापितोस्मि मम पितामहेन  
 (१९) — भट्ट गुहिलस्वामिना भट्टार्थिका  
 (२०) पते बान्धवो कोपतौ मोकाय

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LITERARY INTELLIGENCE.

The first edition of the Institutes of Manu, with the Comment of Kullūka, was brought out by the Serampore Missionaries nearly forty years ago. But as it was printed in the Nāgari characters, the natives of Bengal could make no use of it, and a Bengali edition was brought out, in the *puṭhī* form, by Bābu Bhabānī-charaṇa Bandya, in the year 1832, A. D. Both these have been out of print for some time, and Professor Bharatachandra Ćiromani has done a service to the public

by publishing a new edition of the work, together with a Bengali translation. It will be welcome to a large class of readers. It has been very carefully printed, but, as usual with native publications, it has not been edited.

Pandita Lálamohana Bhattácharjya has published a new edition of the Dhátupátha or collection of Sanskrit Roots by Vopadeva, together with a commentary. The work is of use as a guide to persons engaged in the study of the Sanskrit Grammar called the *Mugdhabodha*, and will, we believe, be used as a class-book in the Sanskrit College of Calcutta.

Bábu Prasanna Kumár Tagore, C. S. I., has of late published several Sanskrit works for gratuitous distribution. The last is a treatise, by a Pandita of Nuddea, on Civil Procedure according to Hindu law. It is entitled *Vádivicáda-Bhanjana*, and contains a number of extracts from the old Smritis on the course which a case should follow, from its institution to the final decree, in the court of a Hindu Rajá. The chapter on the law of evidence is particularly interesting. The work is printed in the Bengali character, and has a Bengali translation attached to it.

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